
## Technology Transfer in Computing Systems

# D4.3: Periodic Project Report 3

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# PROJECT PERIODIC REPORT

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| **Grant Agreement number:** | 609491 |
| **Project acronym:** | TETRACOM |
| **Project title:** | Technology Transfer in Computing Systems |
| **Funding Scheme:** | Coordination and Support Action<br>FP7-ICT-2013-10<br>ICT-2013.3.4: Advanced computing, embedded and control systems |
| **Date of latest version of Annex I against which the assessment will be made:** | 14.12.2015 |
| **Periodic report:** | 3 |
| **Period covered:** | **from** 01.09.2013 **to** 31.08.2016 |


**Name, title and organisation of the scientific representative of the project's coordinator:**

Prof. Dr. Rainer Leupers

RWTH Aachen University

Institute for Communication Technologies and Embedded Systems (ICE)

Chair for Software for Systems on Silicon (SSS)

**Tel:** +49 241 80-28301

**Fax:** +49 241 80--28306

**E-mail:** leupers@ice.rwth-aachen.de


**Project website address:** www.tetracom.eu

## Declaration by the scientific representative of the project coordinator

I, as scientific representative of the coordinator of this project and in line with the obligations as stated in Article II.2.3 of the Grant Agreement declare that:

- The attached periodic report represents an accurate description of the work carried out in this project for this reporting period;
- The project (tick as appropriate):
  - X has fully achieved its objectives and technical goals for the period;
  - ☐ has achieved most of its objectives and technical goals for the period with relatively minor deviations.
  - ☐ has failed to achieve critical objectives and/or is not at all on schedule.
- The public website, if applicable
  - X is up to date
  - ☐ is not up to date
- To my best knowledge, the financial statements which are being submitted as part of this report are in line with the actual work carried out and are consistent with the report on the resources used for the project (section 3.4) and if applicable with the certificate on financial statement.
- All beneficiaries, in particular non-profit public bodies, secondary and higher education establishments, research organisations and SMEs, have declared to have verified their legal status. Any changes have been reported under section 3.2.3 (Project Management) in accordance with Article II.3.f of the Grant Agreement.

Name of scientific representative of the Coordinator: Prof. Rainer Leupers

Date: 31.10.2016

For most of the projects, the signature of this declaration could be done directly via the IT reporting tool through an adapted IT mechanism and in that case, no signed paper form needs to be sent.

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## Publishable Summary

The mission of the TETRACOM Coordination Action is to boost European academia-to-industry technology transfer (TT) in all domains of Computing Systems. While many other European and national initiatives focus on training of entrepreneurs and support for start-up companies, the key differentiator of TETRACOM is a novel instrument called **Technology Transfer Project (TTP)**. TTPs help to lower the barrier for researchers to make the first steps towards commercialization of their research results. TTPs are designed to provide incentives for TT at small to medium scale via partial funding of dedicated, well-defined, and short term academia-industry collaborations that bring concrete R&D results into industrial use. This is implemented via competitive Expressions-of-Interest (EoI) calls for TTPs, whose coordination, prioritization, evaluation, and management are the major actions of TETRACOM. 50 TTPs were funded during the project, as expected. The TTP activities are complemented by **Technology Transfer Infrastructures (TTIs)** that provide training, service, and dissemination actions. These are designed to encourage a larger fraction of the R&D community to engage in TTPs, possibly even for the first time. Altogether, TETRACOM is conceived as the major pilot project of its kind in the area of Computing Systems, acting as a TT catalyst for the mutual benefit of academia and industry. The project´s primary success metrics are the number and value of coordinated TTPs as well as the amount of newly introduced European TT actors. 26 new contractors have been acquired over the project duration. TETRACOM complements and actually precedes the use of existing financial instruments such as venture capital or business angels based funding.

The major achievements TETRACOM were the following:

- TETRACOM has completed **50 individual TTPs** with a total of **34 academic partners** in 6 different categories of ICT and computing systems, including e.g. communications and multimedia (12 TTPs), industrial automation (10), health (8), safety & security (5), automotive (5), and data analytics (10). The number of TTPs meets the initial expectation and clearly shows the existence of a European “technology transfer market” based on the TETRACOM model.
- The three open calls for TTPs **received 107 proposals** altogether, out of which 21 came from new EU member states. Across all TTP proposals, the company partners promised a total co-funding amount of more than 3.5M EUR, which indicates a significant “willingness-to-pay” for new computing technologies developed in academia.
- Approx. **67% of all company partners are SMEs**. Moreover, TETRACOM has become a “brand name” in the European academic computing systems community. Hundreds of participants attended the technology transfer workshops and events organized by the project, which proves a significant community mobilization and interest in transfer opportunities and mechanisms. Given a typical TTP budget of € 50,000 (€ 25,000 from TETRACOM + € 25,000 from the company partner), the Return on Investment appears really significant
- TETRACOM also acts as an **ICT job catalyst**. In many cases, academic researchers performing individual TTPs have subsequently been hired by the industry partner as part-time or full-time staff member. Furthermore, several TTPs are known to have led to start-up company foundations or concrete plans.

## List of Acronyms

| | |
|---|---|
| DoW | Description of Work |
| IAB | Industrial Advisory Board |
| EoI | Expression of Interest |
| NDA | Non-Disclosure Agreement |
| PO | Project Officer |
| SC | Steering Committee |
| TTP | Technology Transfer Project |
| TTI | Technology Transfer Infrastructures |

## List of Partners (new TTP partners in *italics*)

| | |
|---|---|
| RWTH | Rheinisch-Westfälische Technische Hochschule Aachen |
| UEDIN | University of Edinburgh |
| UGENT | Ghent University |
| INRIA | Institut National de Recherche en Informatique et en Automatique |
| UPISA | University of Pisa |
| TUD | Delft University of Technology |
| TUT | Tampere University of Technology |
| IMC | Imperial College London |
| *UL* | *Univerza V Ljubljani* |
| *TUE* | *Technische Universiteit Eindhoven* |
| *UPC* | *Universitat Politecnica de Catalunya* |
| *USalento* | *Universita del Salento* |

| | |
|---|---|
| *LJMU* | *Liverpool John Moores University* |
| *UNIKL* | *Technische Universität Kaiserslautern* |
| *TUB* | *Technische Universitaet Berlin* |
| *CTUNING* | *CTUNING Foundation* |
| | |
| *UROS* | *Universität Rostock* |
| *TUS* | *Technical University of Sofia* |
| *UPV* | *Universitat Politecnica de Valencia* |
| *JSI* | *Institut Jozef Stefan* |
| *CIT UPC* | *Centre d'Innovació i Tecnologia* |
| *UU* | *Uppsala University* |
| *LUH* | *Gottfried Wilhelm Leibniz Universität Hannover* |
| *UNIMORE* | *Universita Degli Studi de Modena e Reggio Emilia* |
| *UCAM* | *Fundación Universitaria San Antonio* |
| | |
| *UZAGREB* | *University of Zagreb* |
| *TUDENMARK* | *Technical University of Denmark* |
| *ULUEBECK* | *University of Lübeck* |
| *EPFL* | *École polytechnique fédérale de Lausanne* |
| *TUDRESDEN* | *Technische Universität Dresden* |
| *TUCLUJ* | *Technical University of Cluj-Napoca* |
| *EPU* | *European Polytechnical University* |
| *UOSIJEK* | *University Josip Juraj Strossmayer in Osijek* |

## Project objectives for the period

TETRACOM is breaking new grounds in direct, bilateral European academia-industry technology transfer (TT) in the domain of Computing Systems. This concept is complementary to existing start-up support initiatives. The project is organized along two major activity lines:

**Technology Transfer Projects (TTPs):** The concept of TTPs originates from typical bilateral academia-industry collaboration scenarios in the domain of Computing Systems: A university U has developed a certain technology or IP for solving a technical problem, often within a publicly funded project. Some company C has a similar problem in their current R&D activities and gets interested in U´s general solution approach. The requirements are analysed in detail, and as a result U and C may sign a bilateral R&D or license agreement to make the technology available to C under certain conditions and for an appropriate compensation. In most cases this requires U to perform additional services, usually under tight timing constraints, around the licensed technology to actually bridge the gap between the original prototype and a working solution for C, and in order to provide the required technology support and training. TETRACOM calls for, coordinates, and sponsors TTPs of this type according to well-defined rules.

**Technology Transfer Infrastructures (TTIs):** As support activities, several dedicated TTIs are maintained, intended to help in setting up a new academia-industry "TT marketplace" and to encourage first-time actors to get engaged in TTPs. TETRACOM currently implements the following TTIs: TT workshops, consultation services, Website, Newsletter, and social media.

TETRACOM is structured into four work packages:

- **WP 1: TTP EoI calls management (Leader: UEDIN)**
- **WP 2: TTI organization and dissemination (Leader: UGENT)**
- **WP 3: Individual TTPs (Leader: RWTH)**
- **WP 4: Project management (Leader: RWTH)**

This document describes the activities and results of TETRACOM during project months 1-36. **Please note that the results of the initial project phase (months 1-8) were already described in the 1st Periodic Project Report (see Deliverable D4.1) and were discussed in the 1st review meeting (May 2014, Barcelona). The results of the second project phase (months 9-18) were already described in the 2nd Periodic Project Report (see Deliverable D4.2) and were discussed in the 2nd review meeting (May 2015, Oslo). Earlier results are largely repeated in this report for sake of document consistency.**

The major objective of the present reporting period (months 19-36) has been the continuation of the above work packages, including some key events like completion of the 3rd call for TTPs and inclusion of the corresponding new consortium members, the 2nd Industrial Advisory Board (IAB) meeting, and the TETRACOM main workshop (D2.4).

## Summary of recommendations of the previous technical review meetings

The major recommendations from the 1st review meeting (May 2014, Barcelona) were as follows:

1. **Put more emphasis on measuring results than on measuring effort**. The review committee observed that in several deliverables the "amount of effort spent" is used as a Key Performance Indicator (KPI), whereas the "impact achieved" is more important and more relevant to be tracked. Example: the consortium reports on the press release but hardly focuses on the press coverage it received.
2. **Institutionalize the learning**. TETRACOM is a pilot project. It should be considered a pipe cleaner to find the optimal process, rules and procedures to enable a European best practice in academia-to-industry technology transfer. This implies that the three calls of TETRACOM should be used as a learning exercise towards building this best practice. A formal methodology to capture and document this learning should hence be developed. The resulting procedure should be part of the White Paper.
3. **Develop mechanisms to assess the impact of individual Technology Transfer Projects** (TTPs). Next to the importance of measuring the overall impact of TETRACOM itself, it is important to assess the industrial impact achieved with every TTP. Knowing that the industrial recipient of the transferred technology will not become a member of the consortium and appreciating the confidentiality of business strategy and product details, it can prove hard to gather this information. The review committee hence recommends to the consortium to work out a template form, as well as a filled-out example, and, at the time of communicating the TTP proposal acceptance, to clearly convey the message to industry that the consortium expects this form to be filled-out by the end of the transfer project.
4. **Consider excluding the core consortium from the open TTP calls**.

The TETRACOM Steering Committee (SC) discussed these recommendations during its regular meetings and also within the IAB meeting in Sep. 2014. The major conclusions and actions were as follows:

1. **Put more emphasis on measuring results than on measuring effort**. Concerning press coverage measurement, we have put in place analytics to track the usage of the website, and we are now monitoring the TETRACOM coverage on the internet. More details are to be found in deliverable D2.2. The SC believes that TETRACOM´s PR channels are very effective: According to an informal survey conducted among the TTP proposers in call 1, the large majority heard about TETRACOM opportunities via the mailing lists, or TT workshops. The number of TTP proposals went up by 30% from call 1 to call 2. Concerning systematic measurement of TTP results, see point 3.
2. **Institutionalize the learning**. During the conclusion of TTP call 1, the TETRACOM consortium has already observed some issues around the “theoretical” TTP concept. This relates e.g. to the

proposal evaluation procedure, misunderstandings about TTP call text details, and synchronization issues in kicking off all new TTPs simultaneously. Naturally all (positive and negative) lessons learned over the three TTP calls will be documented in the final White Paper, whose major purpose is to capture everything learned from TETRACOM.

3. **Develop mechanisms to assess the impact of individual Technology Transfer Projects.** A comprehensive TTP impact questionnaire (see Annex E) has been designed and has been distributed to all TTP partners. The questionnaires have to be filled and returned along with the TTP abstracts (Deliverables 3.x) at end the end of each TTP. Moreover, in an attempt towards a more systematic impact scoring, the technology readiness level (TRL) has been included as another evaluation criterion in the TTP call text.
4. **Consider excluding the core consortium from the open TTP calls**. This has been implemented immediately and is now fixed in the DoW.

The major recommendations from the 2nd review meeting (May 2015, Oslo) were as follows:

1. **Revise the deliverable on Technology Transfer Impact and take up the information from the slides that were used to present the impact analysis**. The review committee observed that important information on the realized Technology Transfer Impact was not included in the written report. It is requested that the important impact results, as provided and presented during the review meeting, are taken up in the written report so that it is sufficiently documented.
2. **Improve the Public Relation Instruments of TETRACOM in various ways.** The review committee sees several opportunities to improve the PR activities of TETRACOM to improve dissemination and exploitation. It is therefore requested to undertake the following actions. 1) write a press release on the success stories of TETRACOM. 2) use "one-liners" and "one-line testimonials" from companies as a PR tool. 3) use the meeting in Milano to highlight the best practices 4) Come up with a way to present and publicize the impact of TETRACOM on the website.
3. **Set up a central help desk.** Since it turned out that the "consultation service" was unsuccessful it is requested that it is replaced by a central contact point or central help desk or "Service Centre" as a "one-stop-shopping" facility.
4. **Improve the evaluation procedure.** The review committee believes that there is a lot of potential for improving the evaluation procedure and recommends that steps should be taken to refine the procedure. In particular it is recommended that a consolidation/consensus mechanism for the TTP evaluation procedure should be put in place for the 3rd call to solve the large spread in evaluation outcome of the project.
5. **Present to the European Commission the evaluation results** as well as a few TTP coordinators (via "elevator pitches") immediately after call 3 and before publication of the results.
6. **In order to ensure that the white paper (to be delivered in M36 according to the DoW) has the expected content** it is recommended that the consortium should provide already at a sufficiently early stage a first version to the review committee. This early version should be seen as a live document and that is already completed with currently available information and will be updated at any good occasion. It should be published on the website.

The TETRACOM Steering Committee (SC) discussed these recommendations during its regular meetings and also within the IAB meeting in Sep. 2015. It should also be noted that the official review report only arrived in Sep 2015, so there was not too much time left for corrective actions. Nevertheless, the major conclusions and actions were as follows:

1. **Revise the deliverable on Technology Transfer Impact and take up the information from the slides that were used to present the impact analysis**: It has been clarified with the EC afterwards that there had obviously been a misunderstanding concerning the delivery date of the first TTP impact report (D1.3): This report had been rescheduled in agreement with the EC to the end of May 2015. This is why D1.3 was not available by the review meeting on May 5, 2015.
2. **Improve the Public Relation Instruments of TETRACOM in various ways:**
    1) There have been multiple press activities. A paper about TETRACOM achievements has been published at the DATE 2016 conference in Dresden, where also a TETRACOM booth has been organized. Several success stories of TETRACOM TTPs have been published in the brochure of the "Smart Anything Everywhere 2016 Workshop" organized by the EC in June 2016 in Brussels, followed by a dedicated press release. Further success stories were featured in the HiPEACInfo magazine in July 2016.
    2) Numerous company testimonials have been collected and put on the new website (www.tetracom.eu).
    3) The TETRACOM main workshop (Milano, Sep 2015) included best practice talks from experienced entrepreneurs as well as from 8 successful TETRACOM TTPs.
    4) The project impact is highlighted through a dedicated page on the new website.
3. **Set up a central help desk:** The central help desk has been established as Task 2.2 in the present DoW version.
4. **Improve the evaluation procedure:** The evaluation procedure has been improved accordingly, also including a consensus mechanism. Details are described in Deliverable D1.2 on TTP calls statistics.
5. **Present to the European Commission the evaluation results**…: The request for "elevator pitches" has later been dropped by the EC. The TTP call 3 evaluation results were sent to the EC by Email on Nov 17. No particular comments were received, so the TTPs were granted as suggested by the SC.
6. **In order to ensure that the white paper (to be delivered in M36 according to the DoW) has the expected content**…: The SC decided to take an even bolder step, namely a complete relaunch of the TETRACOM website. Using some of the remaining project budget, the TETRACOM team engaged with a professional web design company and implemented a complete new WWW appearance of TETRACOM, oriented towards a much wider audience and clearly highlighting the project impact at a glance. The new website went online right in time before the SAE workshop in June 2016 in Brussels.

# Work Progress and Achievements during the Period

# Work Package 1: TTP EoI Calls Management

### Task 1.1: Calls for TTP EoI´s

Duration: M3-M24
Lead contractor: TUT
Further contributors: all

*Three calls for TTP EoIs ("Expressions of Interest") will be prepared by TUT and UEDIN and be published using communication media like mailing lists, web sites, and leaflets. Each call denotes a particular project phase and thus constitutes one of the milestones MC1-MC3. The other contractors will help in the definition and distribution of EoI calls.*

## Months 1-8

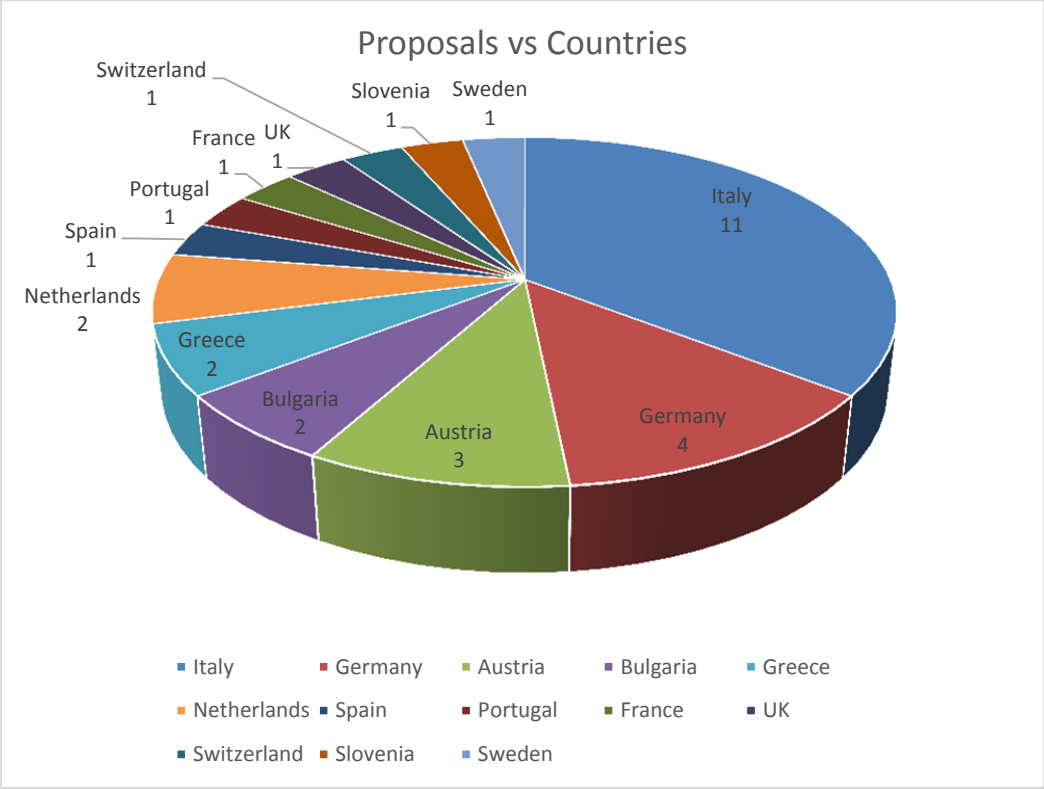
After careful drafting by the Steering Committee (SC) in collaboration with the PO, the first call for TTP proposals (the original term "Expression of Interest" is no longer used here for sake of clarity) has been published on Feb 14, 2014 with the submission deadline set to Mar 31. The following media and channels have been used to announce the call as widely as possible in the computing and embedded systems community:

- HiPEAC mailing list (approx. 5400 members)
- EMSIG/ARTIST mailing list
- SoCInfo mailing list (approx. 6000 members)
- TETRACOM website (see Task 2.3)
- TETRACOM electronic newsletter
- TETRACOM Facebook and Twitter accounts (see D2.1)
- Public presentations (see Task 2.1)

A total of **31 TTP proposals** have been submitted in TTP call 1 by the deadline. For this purpose, an online submission facility has been implemented at http://www.tetracom.eu. Some submission statistics are summarized below. The actual proposals are (confidentially) available on request.

- The academic proposers originate from 13 different European countries (see chart below), 12 of which are EU countries.
- The company partners are distributed over 10 countries, 9 of which are EU countries.
- 14 proposals involve SME company partners.
- 3 proposals come from new EU member states (Bulgaria and Slovenia).
- 28 proposals come from outside TETRACOM´s founding consortium.

- The requested TTP funding from TETRACOM is between 15k and 78k EUR, with an average of approx. 30k EUR.
- The matching company funding is between 4.5k and 170k EUR, with an average of approx. 27k EUR.
- The total requested funding is approx. 924k EUR, the total matching company funding is approx. 1.1M EUR.
- The average proposed TTP duration is 8.6 months.
- 10 of the academic TTP proposers are HiPEAC members. 6 of the submitted project proposals involve company partners that are linked to HiPEAC.




## Months 9-18

The second call for TTP proposals has been published on Nov 17, 2014 with the submission deadline set to Dec 31. The same media and channels as in call 1 have been used to announce the call as widely as possible in the computing and embedded systems community.

A small informal survey has been performed in July 2014 among the call 1 TTP proposers about the relative effectiveness of the different distribution channels. The responses indicate that the mailings and

personal information e.g. via TT workshops were most important, while the home page and social media were less important for this purpose.

| **How did you learn about the 1st TETRACOM TTP call?** | answers |
|---|---|
| 1. Mailing list | 9 |
| 2. Internet search | 0 |
| 3. TETRACOM home page | 1 |
| 4. Presentation at some conference | 4 |
| 5. Newsletter (from TETRACOM or HiPEAC) | 5 |
| 6. Social media | 0 |
| 7. Personal communication | 11 |

Another informal follow-up survey has been conducted among the call 2 TTP proposers:

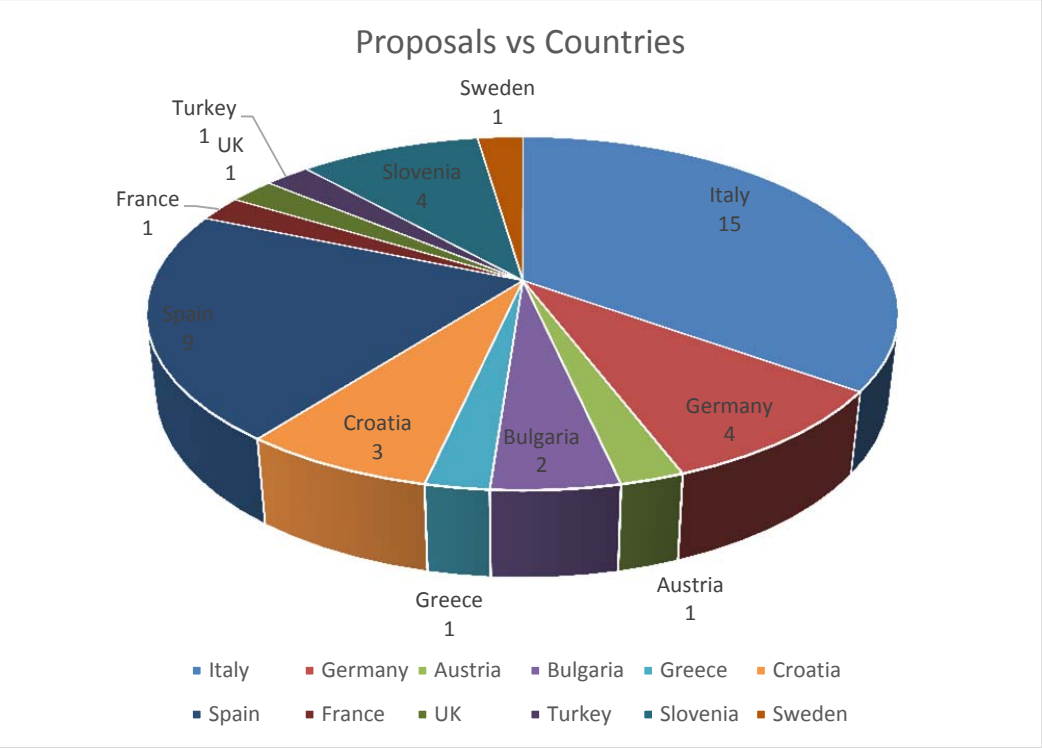
| **How did you learn about the 2nd TETRACOM TTP call?** | answers |
|---|---|
| 1. Mailing list | 20 |
| 2. Internet search | 2 |
| 3. TETRACOM home page | 10 |
| 4. Presentation at some conference | 7 |
| 5. Newsletter (from TETRACOM or HiPEAC) | 12 |
| 6. Social media | 1 |
| 7. Personal communication | 19 |

Again, mailings and personal communications were the most important channels, while the newsletter and web site also received more traction among potential proposers.

The second call for TTPs has been distributed as a package of three different documents. Based on observations during call 1 and reviewer recommendations, some improvements have been made to the first version.

- **The call text (Annex A)**
  - Titles and partners of some accepted TTPs from call 1 have been included in order to provide samples to potential proposers
  - The need for TTP co-funding by the industry partner and the preference for cash-based co-funding have been emphasized
- **Instructions for preparing a TTP proposal (Annex B)**
  - The need for having a PIC in advance has been highlighted
  - The need to deliver an abstract, an impact questionnaire, and a financial report per TTP has been pointed out
  - More precise definitions of “academic” and “industrial” TTP partners have been provided
- **TTP proposal form (Annex C)**
  - The technology transfer plan criteria have been extended by a justified self-assessment of the TRL of the technology underlying the TTP proposal

A total of **43 TTP proposals** have been submitted for TTP call 2 by the deadline via the online submission at http://www.tetracom.eu. The actual proposals are (confidentially) available on request. Some submission statistics are summarized below. For sake of easier comparison, the corresponding numbers from call 1 are given in brackets. Comments are given in case of significant changes.




- The academic proposers originate from 12 [13] different European countries (see chart below), 11 [12] of which are EU countries.
- The company partners are distributed over 11 [10] countries, 10 [9] of which are EU countries.
- 32 [14] proposals involve SME company partners.
    - Comment: Unless statistical noise, SMEs obviously are getting more attractive and interested as industry partners in TTPs.
- 9 [3] proposals come from new EU member states (Bulgaria, Croatia, and Slovenia).
    - Comment: Largely due to the intensive activities of the HiPEAC network in the new member states
- 43 [28] proposals come from outside TETRACOM´s founding consortium.
    - Comment: By construction, due to exclusion of the founding consortium from call 2
- The requested TTP funding from TETRACOM is between 11k [15k] and 73k [78k] EUR, with an average of approx. 28k [30k] EUR.
- The matching company funding is between 7k [4.5k] and 70k [170k] EUR, with an average of approx. 32k [27k] EUR.
- The total requested funding is approx. 1.2M [924k] EUR, the total matching company funding is approx. 1.4M [1.1M] EUR.

    - Comment: Scales with the increased number of TTP proposals
- The average proposed TTP duration is 9 [8.6] months.
- 19 [10] of the academic TTP proposers are HiPEAC members. 3 [6] of the submitted project proposals involve company partners that are linked to HiPEAC.
    - Comment: This indicates again the importance of the TETRACOM-HiPEAC collaboration. It also indicates that academic HiPEAC members tend to perform technology transfers with their local industry partner network, frequently SMEs located outside of HiPEAC. This stresses the importance to primarily address the academic community with TETRACOM, as an academic partner can best trigger a TTP in his "private" industry partner network.

The TETRACOM SC considers these results as a successful continuation of the TTP call series:

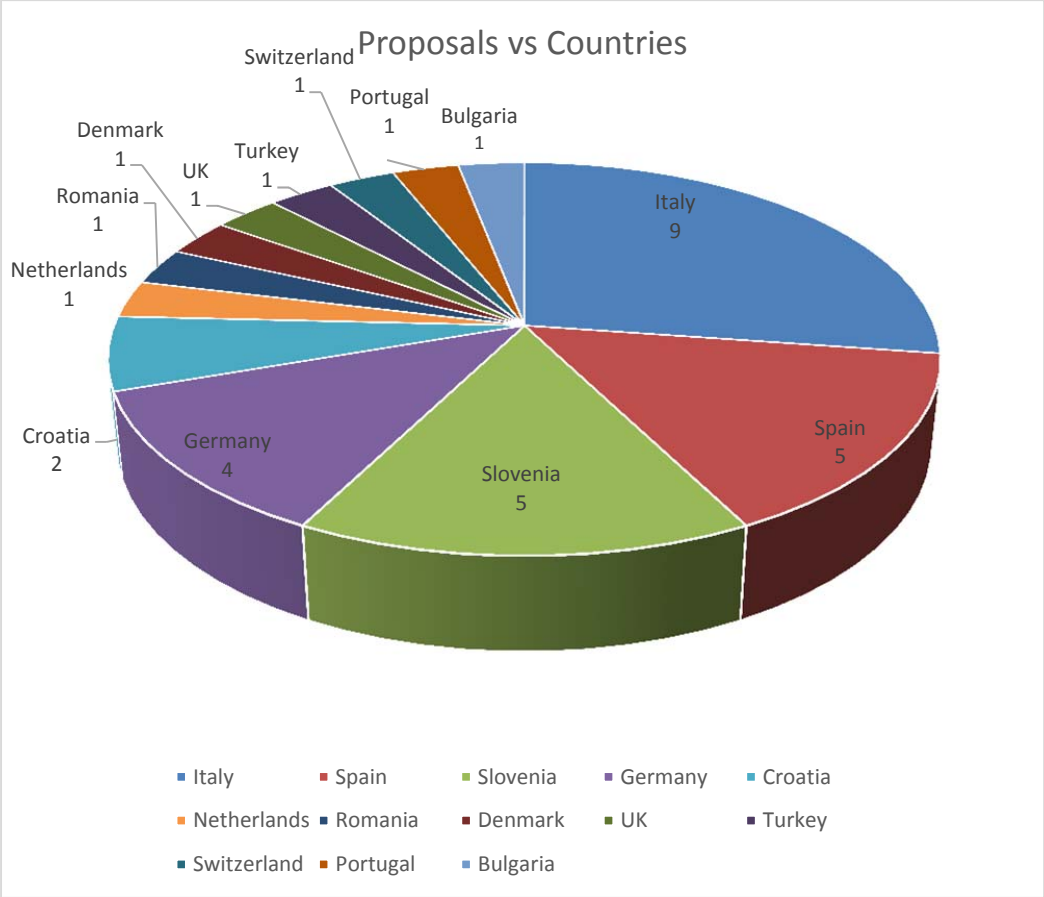
- The number of TTP proposals went up by around 30%
- There is a significantly higher participation by SMEs and new EU member states
- Most other key data are stable, which indicates that the TTP concept and funding constraints are well understood by the target community

### Months 19-36

The third and final call for TTP proposals has been published on Aug 15, 2015 with the submission deadline set to Sep 15, 2015. The same media and channels as in calls 1 and 2 have been used to announce the call as widely as possible in the computing and embedded systems community.

The call documents (call text, proposal guidelines and template) were not changed significantly vs the version from TTP call 2. They are provided as Annex A,B, and C in this report. A major change has been the transition towards a professional submission and review platform (EasyChair). All details are described in Deliverable D1.2.

A total of **33 TTP proposals** have been submitted for TTP call 3 by the deadline via the new online submission platform. The actual proposals are (confidentially) available on request. Some submission statistics are summarized below. For sake of easier comparison, the corresponding numbers from call 1 and 2 are given in brackets. Comments are given in case of significant changes.




- The academic proposers originate from 13 [12; 13] different European countries (see chart below), 13 [11; 12] of which are EU countries.
- The company partners are distributed over 15 [11; 10] countries, 13 [10; 9] of which are EU countries.
- 25 [32; 14] proposals involve SME company partners.
- 9 [9; 3] proposals come from new EU member states (Bulgaria, Croatia, Romania and Slovenia).
- The requested TTP funding from TETRACOM is between 5k [11k; 15k] and 45k [73k; 78k] EUR, with an average of approx. 27k [28k; 30k] EUR.
- The matching company funding is between 5k [7k; 4.5k] and 45k [70k; 170k] EUR, with an average of approx. 27k [32k; 27k] EUR.
- The total requested funding is approx. 972k [1.2M; 924k] EUR, the total matching company funding is approx. 1.0M [1.4M; 1.1M] EUR.
- The average proposed TTP duration is 7.3 [9; 8.6] months.
- 11 [19; 10] of the academic TTP proposers are HiPEAC members. 2 [3; 6] of the submitted project proposals involve company partners that are linked to HiPEAC.

The TETRACOM SC considers these results as a very successful finalization of the TTP call series:

- The number of proposals involving SMEs remained very high (76% in call 3).

- There is a broad coverage of EU countries in general.
- The mobilization of new EU member states remained high as well.
- Other key data, e.g. requested funding and matching industry funding, remained stable, indicating that the TTP concept is well understood and established in the community.

**Task 1.2: TTP EoI´s evaluation and selection**

Duration: M6-M28
Lead contractor: UEDIN
Further contributors: all

*The Steering Committee will select TTPs to be funded according to the procedures and rules described in part B section 2.1.3 and 2.1.4. UEDIN will manage this process. The other contractors will assist in appointing external expert evaluators and will, in their role as SC members, make funding decisions.*

## Months 1-8

The external and independent evaluation of all TTP call 1 proposals was finished in May 2014. Afterwards, the SC reviewed the results, ranked the proposals, assigned individual TTP budgets, and invited successful proposers to join the project consortium. The following persons, operating under NDA, served as evaluators. All of them worked voluntarily, so no compensation/honorarium has been demanded.

- John Goodacre, Product Marketing, ARM
- Siegfried Benkner, Professor, TU Vienna
- Francois Bodin, CTO CAPS-Enterprise, Professor INRIA
- Axel Jantsch, Professor, KTH
- Wim De Waele, Director, IMinds
- Colin Adams, Commercialisation Director, Uni Edinburgh

As a result, the following 9 TTP proposals were accepted:

| TTP no. | Name/Partner | Country | Duration | EC contribution |
|---|---|---|---|---|
| 5 | Igor Skrjanc, UL | SL | M13-M22 | €29,232.00 |
| 6 | Panos Markopoulos, TUE | NL | M13-M18 | €30,000.00 |
| 7 | Pablo F. Gonzalez, UPC | ES | M13-M24 | €20,063.00 |
| 8 | Andrea Cataldo, USalento | IT | M13-M18 | €39,996.00 |
| 9 | David Harvey, LJMU | UK | M13-M24 | €32,392.00 |
| 10 | Tim Willemse, TUE | NL | M13-M21 | €49,189.00 |
| 11 | Norbert Wehn, UNIKL | DE | M13-M18 | €27,930.00 |
| 12 | Ben Juurlink, TUB | DE | M13-M16 | €29,960.00 |
| 13 | Grigori Fursin, CTUNING | FR | M13-M19 | €49,969.00 |

One additional proposal (from INFN, Rome) was also accepted by the evaluators but has been withdrawn later by the proposer due to internal management issues. The remaining 9 TTPs were formally started on Sep 1, 2014.

## Months 9-18

The external and independent evaluation of all TTP call 2 proposals was finished in Feb 2015. Afterwards, the SC reviewed the results, ranked the proposals, assigned individual TTP budgets, and invited successful proposers to join the project consortium. The following persons, operating under NDA, served as evaluators:

- Jürgen Teich, University of Erlangen, Germany
- Heiko Falk, University of Ulm, Germany
- Bart Kienhuis, University of Leiden, Netherlands
- Rolf Drechsler, University of Bremen, Germany
- Bernd Janson, Zenit GmbH, Germany
- Frank Gielen, Intec, Belgium
- Laurent Julliard, Kalray, France
- Stanislas De Vocht, Iminds, France

This time each reviewer was paid 500 euros due to a very tight review timescale.

As a result, the following 13 proposals were accepted:

| **TTP no.** | **Name/Partner** | **Country** | **Duration** | **EC contribution** |
|---|---|---|---|---|
| 19 | Christian Haubelt<br>University Rostock | DE | 12 months | €37,843.76 |
| 20 | Petar Yakimov<br>Technical University of Sofia | BG | 10 months | €14,600.15 |
| 21 | Norbert Wehn<br>Universität Kaiserslautern | DE | 5 months | €22,344.00 |
| 22 | Miguel Salido<br>Universitat Politécnica De València | ES | 9 months | €11,963,14 |
| 23 | Franc Novak<br>Jozef Stefan Institute | SI | 12 months | €25,000.00 |
| 24 | Josep Larriba-Pey<br>Centre d'Innovació I Tecnologia | ES | 12 months | €25,795.00 |
| 25 | Kai Lampka<br>Uppsala University | SE | 6 months | €33,859.08 |
| 26 | Holger Blume<br>Leibniz Universität Hannover | DE | 10 months | €35,000.00 |
| 27 | David Harley<br>Liverpool John Moores University | UK | 9 months | €37,096.37 |
| 28 | Roman Trobec<br>Jozef Stefan Institute | SI | 6 months | €29,113.00 |
| 29 | Marko Bertogna<br>Università degli Studi di Modena e Reggio Emilia | IT | 10 months | €29,999.59 |

| | | | | |
|---|---|---|---|---|
| 30 | Horacio Perez<br>Fundación Universitaria San Antonio | ES | 12 months | €22,744.90 |
| 31 | Luca Catarinucci<br>University of Salento | IT | 10 months | €37,450.00 |

## Months 19-36

The external and independent evaluation of all TTP call 3 proposals was finished in Nov 2015. Afterwards, the SC reviewed the results, ranked the proposals, assigned individual TTP budgets, and invited successful proposers to join the project consortium. The following persons, operating under NDA, served as evaluators:

- Heiko Falk, University of Ulm, Germany
- Bernd Janson, Zenit GmbH, Germany
- Frank Gielen, Intec, Belgium
- Stanislas De Vocht, Iminds, France
- John Goodacre, Product Marketing, ARM
- Siegfried Benkner, Professor, TU Vienna
- Francois Bodin, CTO CAPS-Enterprise, Professor INRIA
- Axel Jantsch, Professor, KTH
- Colin Adams, Commercialisation Director, Uni Edinburgh

This time each reviewer was paid 500 euros due to a very tight review timescale.

As a result, the following 16 proposals were accepted:

| **TTP no.** | **Name/Partner** | **Country** | **Duration** | **EC contribution** |
|---|---|---|---|---|
| 34 | Mario Kovac<br>University of Zagreb | HR | 7 months | €29,193.00 |
| 35 | Alastair Donaldson<br>Imperial College of Science, Technology and Medicine | UK | 5 months | €30,132.27 |
| 36 | Paul Pop<br>Technical University of Denmark | DK | 6 months | €44,998.00 |
| 37 | Martin Leucker<br>University of Lübeck | DE | 6 months | €29,748.00 |
| 38 | Adrian Ionescu<br>École polytechnique fédérale de Lausanne | CH | 7 months | €40,018.00 |
| 39 | Janez Pers<br>University of Ljubljana | SI | 6 months | €11,331.30 |
| 40 | Jeronimo Castrillon<br>Technische Universität Dresden | DE | 6 months | €29,499.00 |
| 41 | Andrea Cataldo<br>University of Salento | IT | 6 months | €34,989.00 |

| | | | | |
|---|---|---|---|---|
| 42 | Gregor Kosec<br>Jozef Stefan Institute | SI | 7 months | €30,478.95 |
| 43 | Guillermo Paya-Vaya<br>Gottfried Wilhelm Leibniz Universitaet Hannover | DE | 7 months | €24,999.48 |
| 44 | Silviu Folea<br>Technical University of Cluj-Napoca | RO | 6 months | €24,999.00 |
| 45 | Norbert Wehn<br>University of Kaiserslautern | DE | 6 months | €29,885.10 |
| 46 | Luca Catarinucci<br>University of Salento | IT | 7 months | €36,701.00 |
| 47 | Marin Marinov<br>European Polytechnical University | BG | 7 months | €13,000.00 |
| 48 | Franc Novak<br>Institut Jožef Stefan | SI | 7 months | €25,000.55 |
| 49 | Zeljko Hocenski<br>University Josip Juraj Strossmayer in Osijek | HR | 7 months | €20,000.00 |

**Task 1.3: TTP impact analysis and White Paper**

Duration: M13-M36
Lead contractor: INRIA
Further contributors: all

*Granted and completed TTPs will be systematically monitored for impact and total economic and scientific value (as outlined in part B section 2.1.5), and the results will be reported by INRIA and UEDIN. As another key final outcome, the entire consortium will generate, in consultation with E.C. representatives and invited external experts, a TETRACOM White Paper (D1.5), intended as the successor of the White Paper of the Brussels 2011 TT consultation meeting.*

## Months 1-8

This task was not active in this period, as it needs to rely on a first set of completed TTPs.

## Months 9-18

The first TTP impact report (D1.3) has originally been due in Feb 2015. However, due to the somewhat delayed start of the call 1 TTPs (on Sep 1, 2014), due to administrative hurdles, D1.3 has been postponed, in agreement with the PO, to May 2015. It will be based on the new impact analysis questionnaire (Annex E). An advance version of D1.2 was presented during the 2nd review meeting in May, 2015. By that time, the results of 12 completed TTPs were available.

### Months 19-36

The two TTP impact reports (D1.3 and D1.4) are available, covering the results of all TTPs. They are based on the impact questionnaire provided in Annex E. A dedicated impact summary presentation will be provided during the 3rd review meeting in Nov 2016. The white paper (D1.5) is available, too.

## Work Package 2: TTI Organization and Dissemination

**Task 2.1: TT workshops**

Duration: M1-M36
Lead contractor: TUD
Further contributors: all

*Semi-annual organization of TT workshops at various locations with invited high-profile expert speakers. TUD will manage the organization, while the other contractors will help in inviting speakers and arranging the workshop programs.*

### Months 1-8

Three major workshop or conference session events have been organized during the first 8 project months:

- **Technology Transfer in Computing Systems**: The TETRACOM Approach, HiPEAC Computing Systems Week, Tallinn, Oct 2013, organizers: Rainer Leupers, Koen De Bosschere and Koen Bertels
- **Second Workshop on Transfer to Industry and Start-Ups (TISU)**, HiPEAC Conference, Vienna, Jan 2014, organizers: Rainer Leupers, Koen De Bosschere and Koen Bertels
- **Technology Transfer towards Horizon 2020**, Hot Topic Session at DATE, Dresden, Mar 2014, organizers: Rainer Leupers, Norbert Wehn

All events attracted around 40-50 attendees. Details about speakers and agendas are described in Deliverable D2.1 (TTI report 1).

### Months 9-18

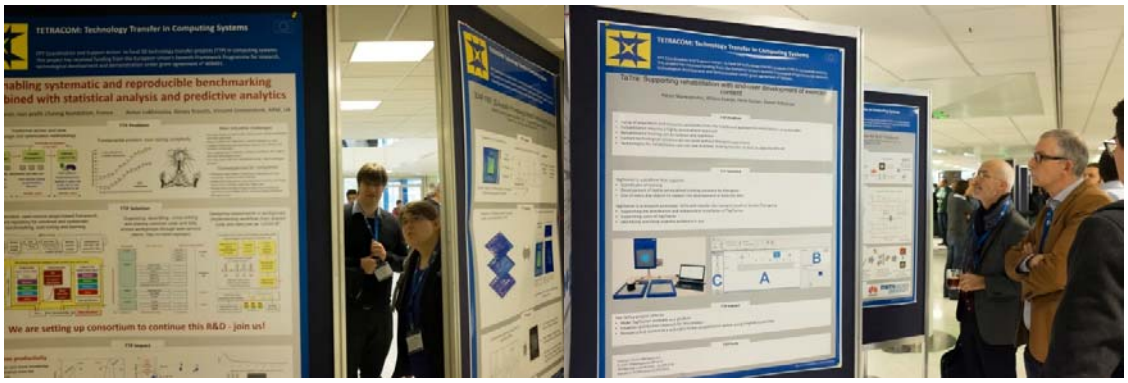
Five major workshop or conference session events have been organized during months 9-18:

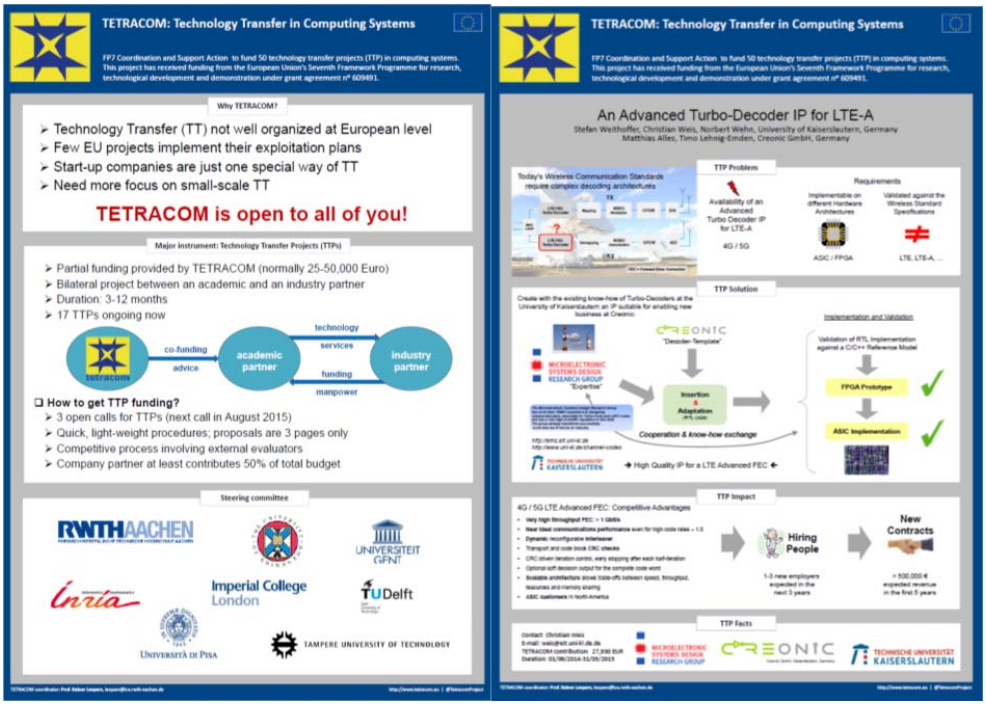
- **TETRACOM presentation**, HiPEAC workshop at TU Zagreb, Sep 2014, Rainer Leupers and Koen De Bosschere
- **TETRACOM presentation**, HiPEAC workshop at Jozef Stefan Institute, Ljubljana, Sep 2014, Rainer Leupers and Koen De Bosschere
- **TETRACOM short presentation,** MAD workshop at HiPEAC computing systems week, Athens, Oct 2014

- **Third Workshop on Transfer to Industry and Start-Ups (TISU)**, HiPEAC Conference, Amsterdam, Jan 2015, organizers: Rainer Leupers, Koen De Bosschere and Koen Bertels
- **TTP poster session at HiPEAC Conference,** Amsterdam, Jan 2015, organizers: Rainer Leupers and Koen De Bosschere (see pictures below)

All events attracted a significant number of attendees. Details about speakers and agendas are described in Deliverable D2.2 (TTI report 2).

With these events, TETRACOM is well ahead of schedule regarding the original planning of having three TT workshops organized by Feb 2015. In particular the presentations in Zagreb and Ljubljana were considered very effective, since they immediately triggered TTP proposals from new EU member states. Moreover, the TTP poster session in Amsterdam greatly contributed to the visibility of TETRACOM, since more than 600 conference attendees were able to take a look at all ongoing TTPs, each of which was represented by an individual poster.

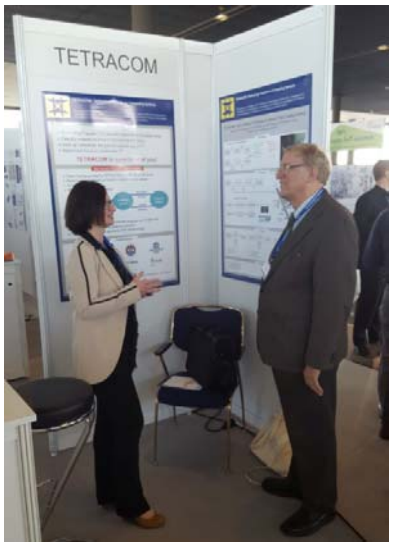


## Months 19-36

10 major workshop or conference session events have been organized during months 19-36:

- **TETRACOM presentation**, HiPEAC Workshop at the Budapest University of Engineering and Economics, June 2015, Rainer Leupers and Koen De Bosschere
- **TETRACOM course**, Entrepreneurial course at the ACACES2015 Summer School, July 2015, Koen De Bosschere and Koen Bertels
- **Fourth Workshop on Transfer to Industry and Start-Ups (TISU)**, HiPEAC Conference, Prague, Jan 2016, organizers: Rainer Leupers and Koen De Bosschere
- **TTP poster session at HiPEAC Conference,** Prague, Jan 2016, organizers: Rainer Leupers and Koen De Bosschere
- **TETRACOM paper presentation,** DATE Conference, Dresden , Mar 2016, Rainer Leupers
- **TETRACOM booth**, DATE conference exhibition, Dresden, Mar 2016, Rainer Leupers (see pictures below)





- **TETRACOM Exhibition floor talk**, DATE Conference, Dresden, Mar 2016, Rainer Leupers
- **TETRACOM presentation**, SAE Workshop, Brussels, June 2016, Rainer Leupers
- **TETRACOM presentation**, HiPEAC workshop at AGH University of Science and Technology, Krakow, Rainer Leupers and Koen De Bosschere (see pictures below)


- **TETRACOM course**, Entrepreneurial course at the ACACES2016 Summer School, July 2016, Koen De Bosschere

Through this wide range of events, we were able to reach out to a significant number of people. Details about speakers and agendas are described in Deliverable D2.3 (TTI report 3).

### Task 2.2: Individual consultation service (now: Central Help Desk)

Duration: M1-M36
Lead contractor: IMC
Further contributors: all

*Organization or provision of specific TT consultation, location of appropriate external experts if appropriate. This process will be managed by IMC. The other contractors will assist by providing their respective know-how and expert networks.*

## Months 1-8

As a first step towards the implementation of this service, a website with database (preliminarily hosted at https://tetracom-service.doc.ic.ac.uk) was developed to manage the registration of:

- **experts** together with their respective fields of interest supporting this service, and
- **users** seeking consultation with appropriate experts.

The current system, implemented using Ruby On Rails, had a link from the main TETRACOM page. Besides registration of new users and experts, the following functions were also supported:

- search for experts by name or by expertise
- sending and receiving messages between users and experts
- an on-line “help” guide to its functions

This service was advertised to HiPEAC and to other groups which may be interested in and benefit from this service. The facilities of this service were extended based on user feedback, such as providing:
(a) a way for users to provide suggestions to improve this service,
(b) a page describing some of the experienced TT experts available to help.

## Months 9-18

After some months of experimentation with the individual consultation service, it was found that the demand for this web-based service was below expectation. One reason is that potential proposers can be reluctant to use a web service for consultation, and most questions concerning TT in TETRACOM were often handled via personal communications and Emails.

On the other hand, there have been several requests by unsuccessful TTP proposers for a more detailed feedback on their proposals, so as to improve their chances for acceptance in future TTP calls. Moreover, it was found (and also recommended by the TETRACOM IAB) that TETRACOM should intensify its outreach activities to other TT agencies and to related projects and initiatives. In fact, the TETRACOM SC had already informally started with these new activities.

As an experiment for the feedback service, we contacted 19 authors of the proposals in the first TTP call who were unsuccessful. Six of them accepted our assistance, and we supplied them with details about why their proposal was rejected, and suggested improvements based on the weaknesses that the reviewers highlighted. Two applicants contacted us with an updated version of their proposals, on which we provided detailed feedback to rectify prior reviewers' concerns, as well as general advice based on successful applications the first call. To our knowledge, at least one of these proposals was resubmitted. For the connection service, a number of technology transfer agencies in Europe were contacted.

As a conclusion, the TETRACOM SC recommended to cancel the individual consultation service and to formally replace task 2.2 in the future by the following:

***Task 2.2 new: Proposer feedback and TETRACOM outreach***

Duration: M19-M36
Lead contractor: IMC
Further contributors: all

| |
|---|
| *Provision of detailed individual feedback and consultation to TTP proposers, in particular unsuccessful proposers, based on TTP proposal evaluation results. Identification of, and communication with, related TT agencies, initiatives, and projects.* |

The goals of this new task are as follows:

- Help TTP proposers to maximize the quality of their future proposals, in particular clarify the profile of TTPs expected in TETRACOM
- Connect TETRACOM to related agencies and TT initiatives, so as to identify synergies and help with the distribution of TTP calls and project communications

## Months 19-36

In agreement with the EC and the project reviewers, the new Task 2.2 has finally been defined as follows:

***Task 2.2 new: Central Help Desk***

Duration: M19-M36
Lead contractor: IMC
Further contributors: all

*Organization and provision of a Central Help Desk service, offering support to ongoing TTPs and feedback to unsuccessful TTP applicants to improve their revised proposal. This process will be managed by IMC. The other contractors will assist by, for example, providing information that can assist ongoing TTPs as well as passing on comments of the reviewers to unsuccessful TTP applicants.*

This service offers a one-stop help facility to support ongoing TTPs and to provide feedback to TTP applicants who are unsuccessful. It collects requests for help from ongoing TTPs, and organizes appropriate resources within TETRACOM or external to TETRACOM to address such requests. The service also coordinates with the evaluation process of TTP proposals, and arranges sending constructive comments from TTP reviewers anonymously to TTP applicants who choose to receive such comments. The service will include analysis and clarification of reviewer comments where appropriate. It will mention plans of future TTP calls to those who have expressed interest, and will provide suggestions about draft TTP proposals, especially the revised versions from unsuccessful TTP applicants. Help TTP proposers to maximize the quality of their future proposals, in particular clarify the profile of TTPs expected in TETRACOM.

The major activities and results were as follows. The Central Help Desk came into operation after the evaluation of TTP call 2 was completed. We contacted 19 authors of proposals who were unsuccessful. Six of them accepted our assistance, and we supplied them with details about why their proposal was rejected, and suggested improvements based on the weaknesses that the reviewers highlighted. Two authors replied stating that they were now revising their proposal based on our feedback, and would be happy to use our services again when their proposal was ready; two other authors expressed interest in submitting new proposals, and would also seek our advice.

Subsequently two applicants contacted us with an updated version of their proposals, on which we provided detailed feedback to address possible reviewer concerns, as well as general advice based on successful applications in the TTP call 2. One of these proposals was successful in the TTP call 3; the authors acknowledged the benefits of the Central Help Desk in the message below.

From: Egidio De Benedetto <egidio.debenedetto@unisalento.it>
Sent: 04 December 2015 09:20
To: Luk, Wayne; Hung, Eddie
Cc: Andrea Cataldo
Subject: Fwd: Your TETRACOM TTP proposal

Dear Eddie Hung and Wayne Luk,

As you may already know, we have recently been informed by prof. Leupers and Eva that our latest TTP has been selected in the 3rd call!
Andrea and I would like to thank you for your precious suggestions, which have definitely contributed to the successful outcome.

thanks again

Best regards,
Egidio and Andrea

After the evaluation of TTP call 3, the Central Help Desk provided feedback to the authors of 15 TTP projects which were unsuccessful, for which reviewer comments were available. Some authors requested further details, and further explanations based on experience of successful TTP proposals were provided.

In addition to the above service, the Central Help Desk contacted a number of technology transfer agencies in Europe to advertise the TTP call. Also social networks such as Linkedin were explored to identify possible TT leads relevant to TETRACOM. Altogether 86 messages were sent to targeted individuals found mainly from LinkedIn (after manually filtering out non-EU, non-computing people from 400+ hits for "technology transfer") and also from messages from technology transfer divisions at top universities. Examples of research organisations to which these individuals belong include European Space Agency, CERN and Fraunhofer; examples of universities include EPFL and Cambridge; examples of organisations include:

- ASTP-Proton -- association for professionals involved in knowledge transfer between universities and industry,
- EIT ICT labs -- European organisation for Innovation and Education in the field of ICT,
- Mercia Technologies -- one of the leading investment businesses in UK technology, specialising in the commercialisation of pioneering businesses across multiple countries: Ireland, France, Norway, Italy, Spain, Switzerland, Romania, etc.

Various responses from agencies such as Imperial Innovations, Technology Transfer Office Erasmus MC, and technology transfer unit at Universitat Oberta de Catalunya were received expressing interest, and some mentioned that they would encourage those who were eligible to submit. For example, the Director of Knowledge Partnering at Leiden University mentioned that they hoped their Medical Centre researchers will be able to submit a proposal, although they did not submit one in the end.

To summarise, the Central Help Desk was effective in provided useful feedback to unsuccessful TTP applicants and in advertising the TTP call, and the feedback was appreciated by those who received it.

### Task 2.3: TETRACOM WWW

Duration: M1-M36
Lead contractor: UPISA
Further contributors: none

*UPISA will design and provide maintenance of the project web site. The domain www.tetracom.eu has already been reserved by the coordinator and will be handed over to UPISA upon project start.*

## Months 1-8

The TETRACOM web site can be found at http://www.tetracom.eu. Initially hosted by RWTH, its maintenance was handed over to UPISA in Feb 2014. Details of the web site setup and contents are provided in Deliverable D2.1. During March-April 2014 the project home page had 837 visits, and the TTP call information had 356 hits. A systematic analysis via Google Analytics has been running from the end of April 2014.

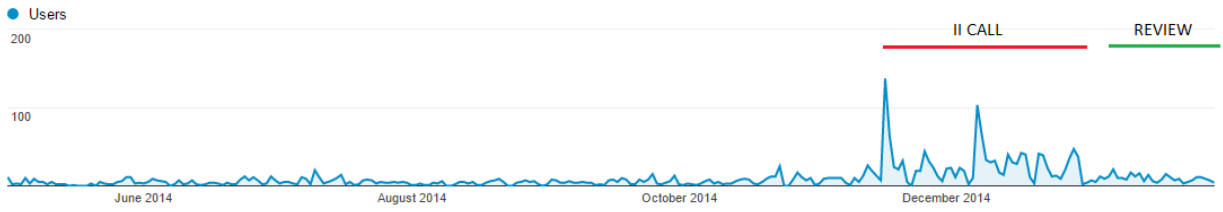
## Months 9-18

The contents and the structure of the TETRACOM website were updated in this period. In particular, news about the project and the related events were added, as well as some downloadable material. Moreover, the structure of the submission form was updated to reflect the new version of the proposal template established for the second TTP call. Finally, a new main page was added to list the funded projects that had chosen to be announced once the funding had been granted. Some details of the updated version of the website are provided in Deliverable D2.2.

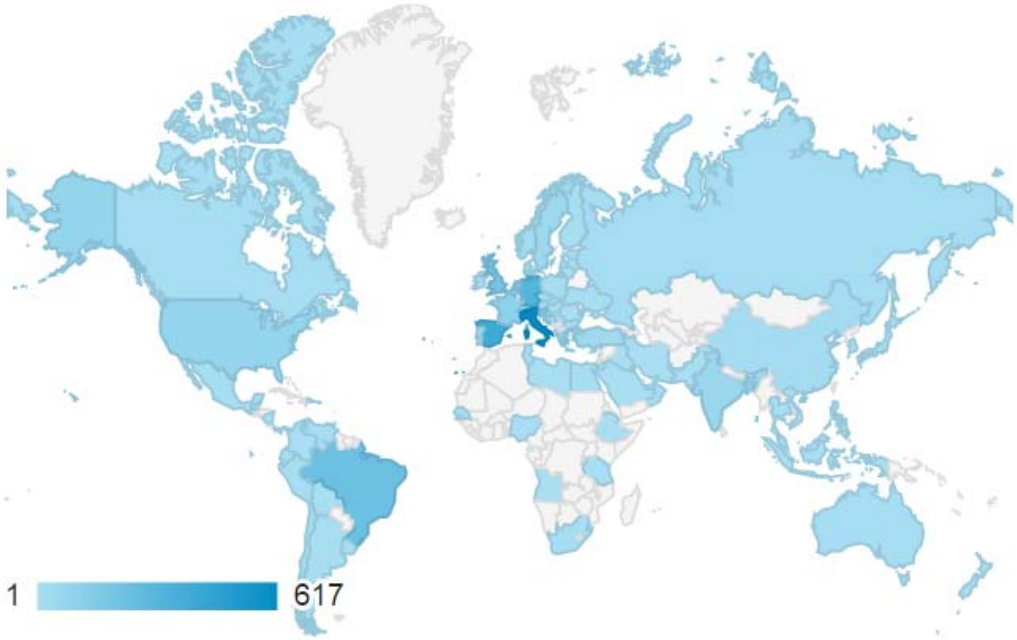
Some statistics and analysis about the period are summarized in the rest of this paragraph.

- 36 new users completed the registration, for a total of 101 users currently registered on the website;
- The website was visited by 1,985 different users worldwide, for a total of 10,278 page views;
- The bounce rate is 54.70% (percentage of single page visit);
- There were 3.086 sessions (period of time the user is engaged with the website), with an average duration of 3 minutes and 14 seconds;
- 64% of the sessions were from new users, that visited the website for the first time;
- 93% of the users accessed the website through PC (Windows, Macintosh and Linux) while only 6 % use a mobile device.

The figure below shows the number of different users that had at least one session within the period. It is possible to see that the highest number of visits is concentrated in the period of the opening of TTP call 2, with the highest peaks corresponding to the opening day (17th November), the 8th December and the last two days before the deadline. Next to the "hot" periods it also important to note that the TETRACOM web site has a relatively constant number of visitors.




The figure below shows the worldwide distribution of the sessions. The top three countries are Italy (19,99 %), Spain(12,99 %) and Germany (10,24 %). Follow Brazil (7,55 %), UK (6,09 %), Slovenia (4,18 %), Netherlands (4,12 %), France (3,47 %), Belgium (3,05 %), Greece (2,46 %), US (2,43 %) and Croatia (2,14 %). Each other country contributes less than 2 %.




The figure below shows the behavior of the users that visited the website. The most important page is the home page reachable by the URL www.tetracom.eu. The other starting pages correspond to the ones provided by a Google search for the “tetracom” keyword. Excluding the home page, the most visited pages are about the call information and submission guidelines, with the main *Call for projects* page that the users typically reach directly or in one step.


The website is the first result searching for the keywords “tetracom eu” on Google (www.google.com) and the second result searching only for “tetracom” while in this case the first result is about an Australian company. Most of the results in the first page provided by Google, searching for “tetracom”, are about the project including the website pages, and social media profiles.

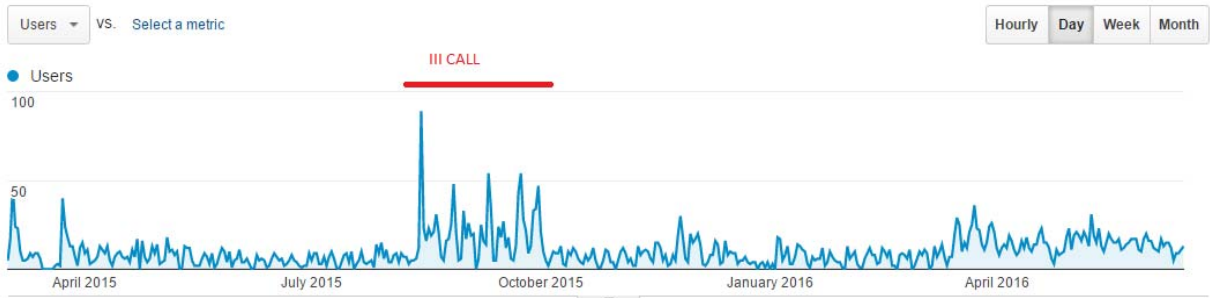
## Months 19-36

The contents and the structure of the TETRACOM website were updated in this period. In particular, news about the project and the related events were added, as well as public downloadable material and private documents in the consortium restricted area (i.e. meeting minutes, deliverables, etc.). Moreover, the structure of the submission form was updated to reflect the new version of the proposal template established for the third and final TTP call and the funded project main page was completed with the list of all projects and the downloadable poster and abstract document for each of them. Finally, a new main page called impact was added to report testimonials from TETRACOM beneficiaries and the first results of the impact analysis.

Some statistics and analysis about the period are summarized in the rest of this paragraph. In square brackets the value about the previous period if applicable.

- 71 [36] new users completed the registration, for a total of 172 [101] users currently registered on the website;
- The website was visited by 3.545 [1.985] different users worldwide, for a total of 16.426 [10.278] page views;
- The bounce rate is 59,68 % [54.70 %] (percentage of single page visit);
- There were 5.605 [3.086] sessions (period of time the user is engaged with the website), with an average duration of 2 minutes and 31 seconds [3 minutes and 14 seconds];
- 62 % [64 %] of the sessions were from new users, that visited the website for the first time;
- 92 % [93 %] of the users accessed the website through PC (Windows, Macintosh and Linux) while only 7 % [6 %] use a mobile device (i.e. Android, iOS, Windows mobile) and the remaining 1 % different OS.

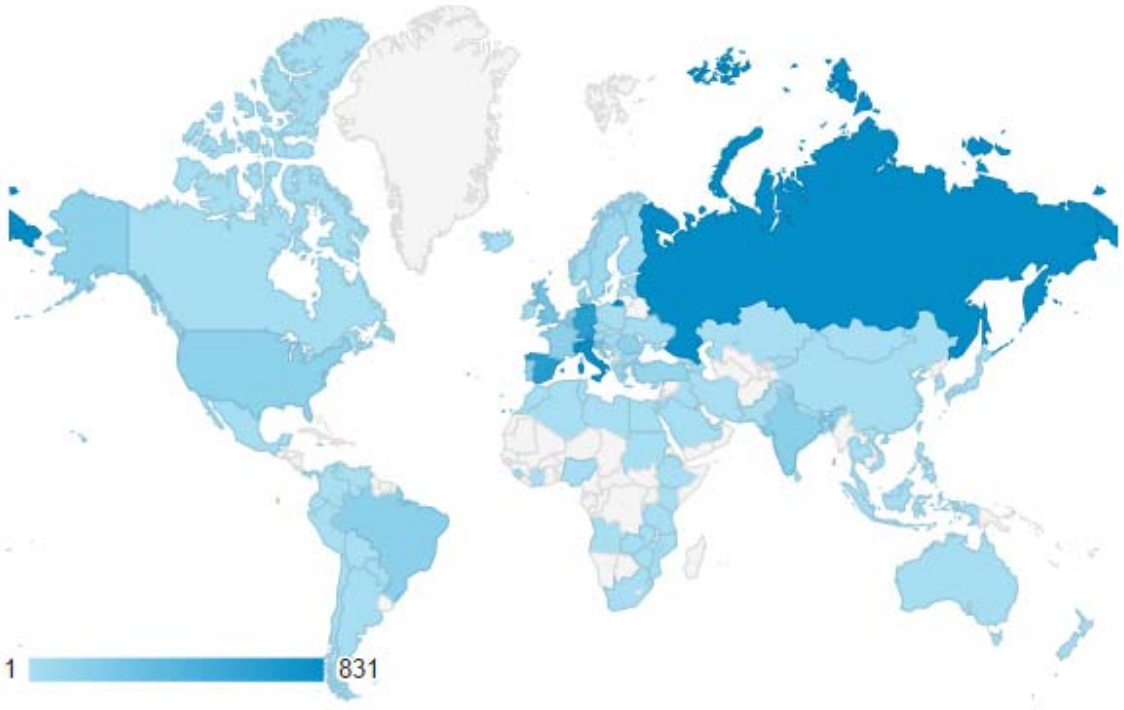
The figure below shows the number of different users that had at least one session within the period. It is possible to see that the highest number of visits is concentrated in the period of the opening of TTP call 3, with the highest peak corresponding to the opening day (15th August). Next to the "hot" periods it also important to note that the TETRACOM web site has a relatively constant number of visitors.



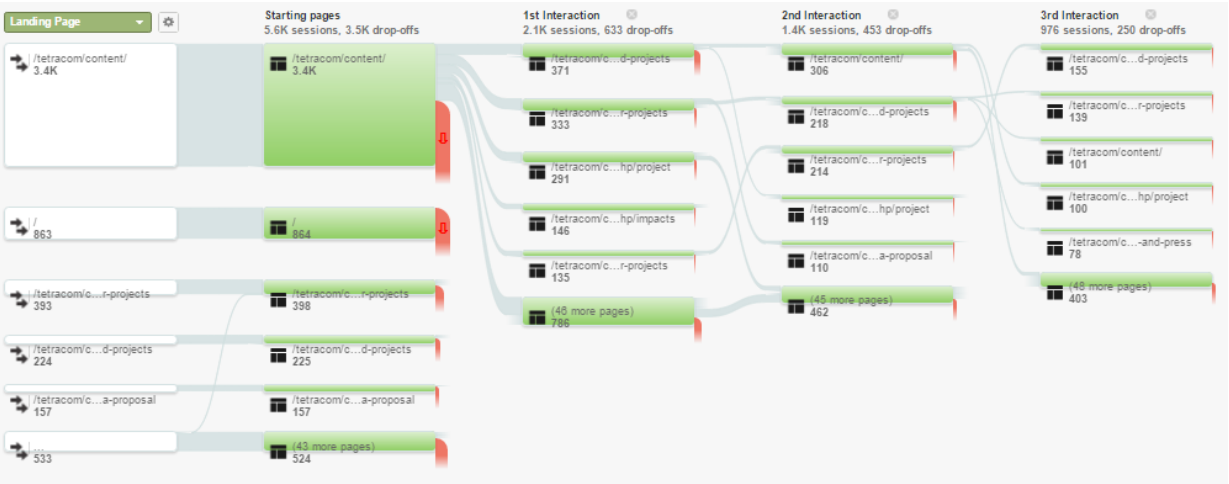

The figure below shows the worldwide distribution of the sessions. The tables below compares the top countries of this period and the previous one.

| Position | Mounts 9 - 18 | Months 19 -36 |
|---|---|---|
| 1 | Italy (19,99 %) | Russia (14,83 %) |

| | | |
|---|---|---|
| 2 | Spain (12,99 %) | Italy (14,49 %) |
| 3 | Germany (10,24 %) | Spain (11,67 %) |
| 4 | Brazil (7,55 %) | Germany (11,51 %) |
| 5 | UK (6,09 %) | UK (4,48 %) |
| 6 | Slovenia (4,18 %) | Slovenia (3,84 %) |
| 7 | Netherlands (4,12 %) | Belgium (3,55 %) |
| 8 | France (3,47 %) | India (2,77 %) |
| 9 | Belgium (3,05 %) | Brazil (2,69 %) |
| 10 | Greece (2,46 %) | France (2,55 %) |
| 11 | US (2,43 %) | Romania (2,44 %) |
| 12 | Croatia (2,14 %) | US (2,41 %) |
| The rest of countries are below 2 % | | |

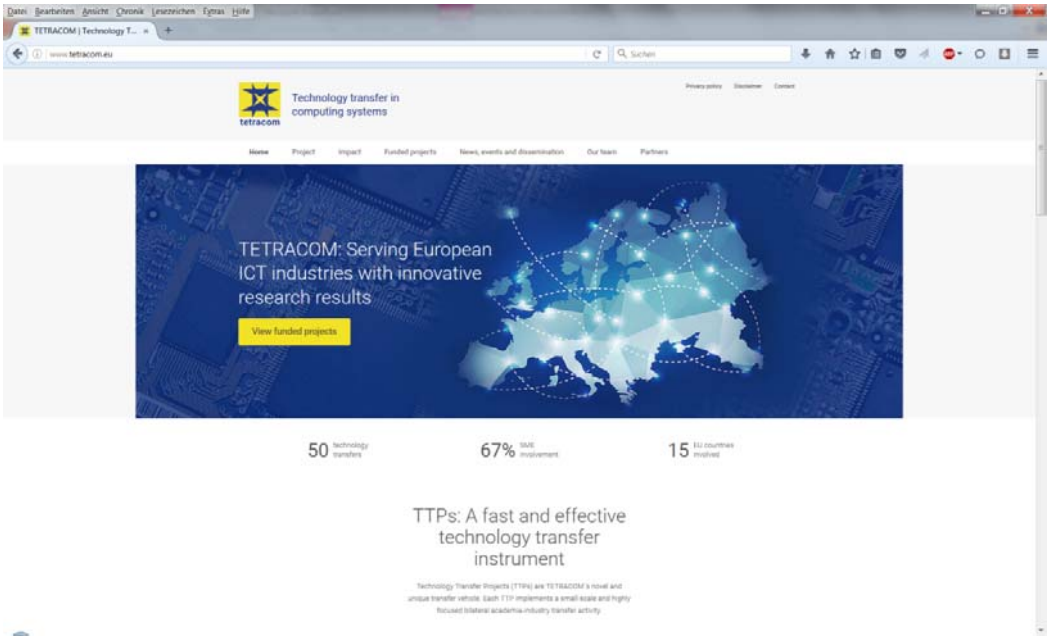



The figure below shows the behavior of the users that visited the website. The most important page is the home page reachable by the URL www.tetracom.eu. The other starting pages correspond to the ones provided by a Google search for the "tetracom" keyword. Excluding the home page, the most visited pages are about the call information and submission guidelines, with the main *Call for projects* page that the users typically reach directly or in one step. Also the funded project page is among the most visited pages of the website.




The website is the first result searching for the keywords “tetracom eu” on Google (www.google.com) and the second result searching only for “tetracom” while in this case the first result is about an Australian company. Most of the results in the first page provided by Google, searching for “tetracom”, are about the project including the website pages, and social profiles.

In mid-June 2016, just before the SAE EC workshop in Brussels, a major relaunch of the TETRACOM website (http://www.tetracom.eu) took place in collaboration with a professional web design company (Spectrum, http://spectrum.io/en). The focus was to provide up-to-date information on TETRACOM and its results to a wide audience at a glance, along with a modern website layout and content management system. Furthermore, the website was also conceived to preserve all important project information also beyond the duration of TETRACOM.



The new website is organized as follows:

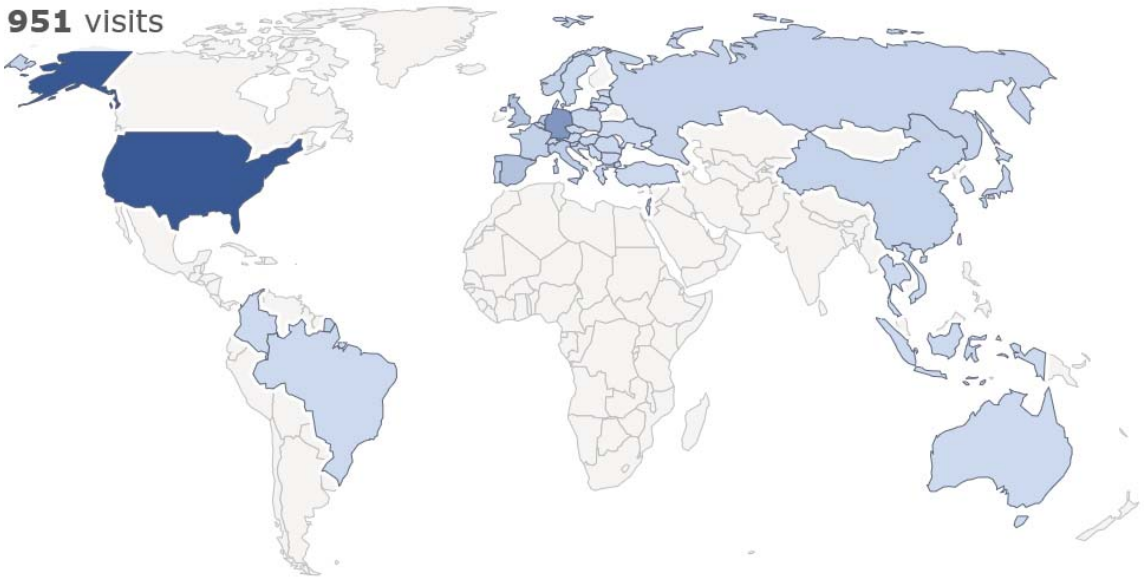
- **Home page**: selected industry testimonials, TTP concept, selected TTPs, key statistics, and major outcomes at a glance
- **Project**: TETRACOM concept, man results, public project reports/deliverables
- **Impact**: industry testimonials, key statistics and outcomes, success stories
- **Funded projects**: Clickable map of TTP locations, overview of all TTPs ordered by categories
- **News, events and dissemination**
- **Team**: brief description of project office, SC, and IAB members
- **Partners**: illustrated list of all academic and industry partners with the TTPs

At the time of submitting this report, the new website has had already 951 visits and 3156 page views and shows the following results.

- The website was visited by 951 different users worldwide, for a total of 3156 page views;
- The bounce rate is 56,00 % (percentage of single page visit);
- There were 455 sessions (period of time the user is engaged with the website), with an average duration of 2 minutes and 52s;
- 75,5% of the sessions were from new users, that visited the website for the first time;
- 94,1% of the users accessed the website through PC while only 5,5% used a mobile device

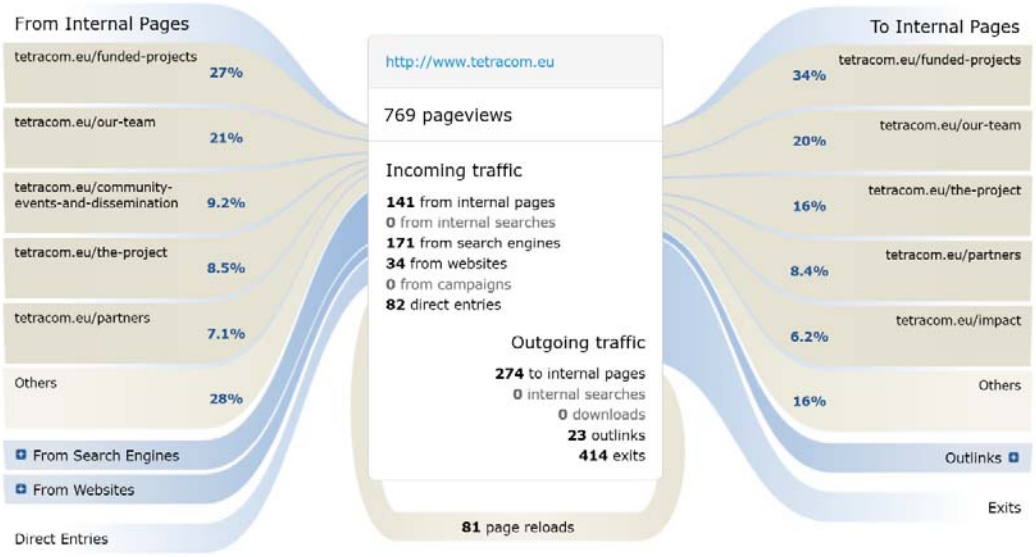

The figure below shows the worldwide distribution of the sessions. The table below compares the top countries of this period and the previous one.

| Position | Months 19-36 | Months 37- 39 |
|---|---|---|
| 1 | Russia (19,99%) | United States (38,9%) |
| 2 | Italy (14,49 %) | Germany (19,6%) |
| 3 | Spain (11,67 %) | Spain (6,9%) |
| 4 | Germany (11,51 %) | United Kingdom (6,3%) |
| 5 | UK (4,48 %) | Netherlands (3,8%) |
| 6 | Slovenia (3,84 %) | Italy (3,4%) |
| 7 | Belgium (3,55 %) | France (2,5%) |
| 8 | India (2,77 %) | Norway (2,3%) |
| 9 | Brazil (2,69 %) | China (1,8%) |
| 10 | France (2,55 %) | Russia (1,7%) |
| | Romania (2,44 %) | Slovenia (1,3%) |
| | US (2,41 %) | Croatia (1,1%) |




The table and figure below show the behaviour of the users that visited the website. The most important page is the home page reachable by the URL www.tetracom.eu. Excluding the home page, the most visited pages are about the funded projects, with the main *Sub 1 GHz ISA100 technology for low cost and low power consumption embedded systems projects* page that the users typically reach directly or in one step. Also the community-events-and-dissemination page is among the most visited pages of the website.

| Page-URL | Unique visits | Percentage |
|---|---|---|
| / | 554 | 28,5% |
| /funded-projects | 175 | 9% |
| /the-project | 115 | 5,9% |
| /impact | 113 | 5,8% |
| /community-events-and-dissemination | 90 | 4,5% |
| /our-team | 77 | 4,0% |
| /partners | 54 | 2,8% |
| /sub-1-ghz-isa100-technology-low-cost-and-low-power-consumption-embedded-systems | 31 | 1,6% |
| /cloud-based-monitoring-and-analysis-lithium-ion-electrical-energy-storage-systems-cmaleess | 24 | 1,2% |
| /egpu-accelerated-hevch265-video-decoder | 16 | 0,8% |




The website is the first result searching for the keywords “tetracom” on Google, Yahoo and Bing.

**Task 2.4: Newsletter and press releases**

Duration: M1-M36
Lead contractor: UGENT
Further contributors: all

*UGENT will edit and publish a compact semi-annual TT newsletter. The possibility of integrating this, at least temporarily, as a regular “column” in the existing HiPEAC newsletter will be investigated. Two press releases (D2.5 and D2.6) will be also be generated. The other contractors will contribute to these publications.*

## Months 1-8

The kickoff press release (see Deliverable D2.5 for details) has been launched in January 2014 and has been widely distributed. Following the well-proven HiPEAC model, the SC has decided to replace the semi-annual newsletter schedule by a more flexible, “on-demand” one with shorter newsletters, yet at somewhat higher frequency. Newsletters will be issued any time when a sufficient amount of news has accumulated. The first newsletter has been published in Feb 2014 (see Deliverable D2.1 for details). The next issue is planned for June 2014 after the first round of TTP calls has been concluded.

## Months 9-18

Newsletters 2 and 3 have been published on

- July 10, 2014, key message: starting of first TTPs, pre-announcement of TTP call 2
- Oct 24, 2014, key message: announcement of TTP call 2 and several TTIs

All details are given in Deliverable D2.2. A status update after TTP call 1 has also been published in the HiPEAC newsletter in Oct 2014. The next TETRACOM newsletter issue is planned for March 2015 after the second round of TTP calls has been concluded.

### Months 19-36

Newsletters 4-6 have been published on

- March 3, 2015, key message: results from 2nd TTP call
- August 14, 2015, key message: announcement of 3rd TTP call and main workshop
- January 12, 2016, key message: results from 3rd TTP call, main workshop report

A second press release titled "TETRACOM delivers four-fold return of EU tech transfer investment" was launched in June 2016. In addition, two articles were published in the HiPEAC Newsletter and two in the HiPEAC newsmail, reaching out to more than 1.700 subscribers.

All details are given in Deliverable D2.3.

**Task 2.5: TETRACOM main workshop**

Duration: M24-M24
Lead contractor: UGENT
Further contributors: all

*UGENT will organize the main project workshop (Deliverable D2.4, described in part B, section 1.1.3). The other contractors will by default participate to the workshop and will help defining its program.*

### Months 1-8

This task is not yet active. The SC currently plans to co-locate the main workshop with a major HiPEAC event in fall 2015 for synergy reasons.

### Months 9-18

The SC plans to organize the main workshop during the HiPEAC computing systems week in Milano, Sep 2015. The detailed organization will take place during summer 2015, and the workshop will be announced via the same channels as the TTP calls.

### Months 19-36

The main workshop took place on Sep 23, 2015 in Milano as an event within the HiPEAC computing systems week. Next to invited presentations by experienced industry professionals and founders, eight selected TTPs presented their results. We registered 56 participants from 35 institutions in 14 countries

for the workshop. Of the participants that filled out the survey, 73% rated the workshop of high quality. All details can be found in Deliverable D2.3.

## Work Package 3: Individual TTPs

### Months 1-8

In order to ramp up the TTP activities, as agreed in the DoW, SC members are entitled to propose one or two "initial TTPs" themselves with a total budget of 50k EUR outside of the regular TTP calls. The following four initial TTPs have been approved by the SC. The actual proposals are (confidentially) available on request.

| Task | Proposer | Company partner | Duration | Requested TETRACOM funding (EUR) | Industry partner contribution |
|---|---|---|---|---|---|
| Task 3.1 | **TTP 1: System-level power estimation for SoC platforms** | | | | |
| | RWTH | Huawei Technologies, USA | Jan 2014 – Jun 2014 | €25,000.00 | €170,000.00 (cash) |
| Task 3.2 | **TTP 2: Software protection of native Android libraries** | | | | |
| | UGENT | Samsung Electronics, UK | Jan 2014 – Sep 2014 | €25,000.00 | €60,000.00 (cash) |
| Task 3.3 | **TTP 3: Design of a digital processor for 3D Hall sensors conditioning in automotive applications** | | | | |
| | PISA | AMS AG, AT | Mar 2014 – Nov 2014 | €25,000.00 | €25,000.00 (cash) |
| Task 3.4 | **TTP 4: BWAMEM : the most advanced genetic sequencing algorithm** | | | | |
| | TU DELFT | BlueBee, NL | Apr 2014 – Jan 2015 | €50,000.00 | €60,000.00 (manpower) |

### Months 9-18

As a result of TTP call 1 and the approval of further "initial TTPs", the list of TTPs has been extended by the following 13 projects:

| Task | Proposer | Company partner | Duration | Requested TETRACOM funding (EUR) | Industry partner contribution |
|---|---|---|---|---|---|
| Task 3.5 | **TTP 5:**<br>**Nonlinear System Identification with advanced local linear models** | | | | |
| | UL | Evon GmbH, AT | Sep 2014 – Jun 2015 | €29,232.00 | €30,131.00 |
| Task 3.6 | **TTP 6:**<br>**TaTra** | | | | |
| | TUE | SymbioTherapy, NL | Sep 2014 – Apr 2015 | €30,000.00 | €30,000.00 |
| Task 3.7 | **TTP 7:**<br>**Scalable Community Detection on the Cloud (SCDC)** | | | | |
| | UPC | Sparsity Technologies, ES | Sep 2014 – Aug 2015 | €20,063.00 | €28,000.00 |
| Task 3.8 | **TTP 8:**<br>**An Innovative Diffused Monitoring of Moisture and Health in Building Structures** | | | | |
| | USalento | EDIL GE.O.S. s.r.l., IT | Sep 2014 – Apr 2015 | €39,996.00 | €30,000.00 |
| Task 3.9 | **TTP 9:**<br>**3DAP-TIME: 3D Acoustic Processing To Inspect Manufactured Electronics** | | | | |
| | LJMU | Sonoscan, UK | Sep 2014 – Aug 2015 | €32,392.00 | €33,000.00 |
| Task 3.10 | **TTP 10:**<br>**VICTORIA** | | | | |
| | TUE | Verum Software Tools B.V., NL | Sep 2014 – May 2015 | €49,189.00 | €50,911.00 |
| Task 3.11 | **TTP 11:**<br>**LTE-IP** | | | | |
| | UNIKL | Creonic GmbH, DE | Sep 2014 – Apr 2015 | €27,930.00 | €28,000.00 |
| Task 3.12 | **TTP 12:**<br>**eGPU accelerated HEVC/H.265 video decoder** | | | | |
| | TUB | Think Silicon Ltd., GR | Sep 2014 – Dec 2014 | €29,960.00 | €29,637.12 |
| Task 3.13 | **TTP 13:**<br>**Collective Mind for ARM (collaborative, systematic and reproducible benchmarking and optimization of computer systems)** | | | | |
| | CTUNING | ARM, UK | Sep 2014 – Mar 2015 | €49,969.00 | €78,000.00 |
| Task 3.14 | **TTP 14:**<br>**Multicore Platform SW Optimization with the MAPS Compiler** | | | | |
| | RWTH | HUAWEI Technologies, CN | Sep 2013 – Dec 2014 | €25,000.00 | €170,000.00 |
| Task 3.15 | **TTP 15:**<br>**GOMPPA: GNU OpenMP 4.0 for the Kalray MPPA manycore processor** | | | | |
| | INRIA | Kalray, FR | Dec 2014 – Aug 2015 | €50,000.00 | €110,000.00 |
| Task 3.16 | **TTP 16:**<br>**Benchmarking Short Read Mapping Platforms** | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | IMC | BlueBee BV, NL | Nov 2014 – Apr 2015 | €25,000.00 | €36,000.00 |
| Task 3.17 | **TTP 17:**<br>**Analysis of security risks & threats and the design of a hardware secure module to perform cipher algorithms for automotive applications** | | | | |
| | UNIPI | Renesas Electronics Europe Ltd. | May 2014 – Apr 2015 | € 50,000.00 | €106,400.00 |
| Task 3.18 | **TTP 18:**<br>**multi-ConstellATion software GNSS receiver (CAT-GNSS)** | | | | |
| | TUT | Catena Holding B.V. | Apr 2015 – Dec 2015 | € 50,000.00 | € 50,000.00 (15,000 cash, € 35,000.00 manpower) |

The following deliverables from the above individual TTPs were already available:

- D3.1
- D3.2
- D3.3
- D3.4
- D3.8
- D3.11
- D3.12
- D3.14

D3.13 (CTUNING, due in M22 - June), D3.6 (TUE TaTra, not yet started) were delayed because of staff recruiting problems. These deliverables have been provided as soon as they became available. This list was extended after the start of the call 2 TTPs, resulting in 30 ongoing or finished TTPs in total.

## Months 19-36

As a result of TTP calls 2 and 3 and the approval of further "initial TTPs", the list of TTPs has been extended by the following 32 projects:

| Task | Proposer | Company partner | Duration | Requested TETRACOM funding (EUR) | Industry partner contribution |
|---|---|---|---|---|---|
| Task 3.19 | **TTP 19:**<br>**Gesture Detection On-Loading for Next Generation Sensor Subsystems (GDO-NGS2)** | | | | |
| | **UROS** | Bosch Sensortec GmbH | May 2015 – Apr 2016 | €37,843.00 | €37,844.00 |

| | | | | | |
|---|---|---|---|---|---|
| Task 3.20 | **TTP 20:**<br>**DAEDALUS based architectures for smart LED lighting control systems (DAEDALED)** | | | | |
| | **TUS** | LeaderLight Bulgaria Ltd. | May 2015 – Feb 2016 | €14,600.00 | €14,600.00 (manpower) |
| Task 3.21 | **TTP 21:**<br>**Flexible WSN (Flexible, ultra-low-power and easy-to-use Wireless Sensor Network)** | | | | |
| | **UNIKL** | Asandoo GmbH, DE | May 2015 – Sep 2015 | €22,344.00 | €24,000.00 (manpower) |
| Task 3.22 | **TTP 22:**<br>**OPTIGLASS: Application of Artificial Intelligence-based techniques for optimizing the continuous Glass Cutting Problem** | | | | |
| | **UPV** | AGC FLAT GLASS IBERICA, S.A., ES | May 2015 – Jan 2016 | €11,963.14 | €7,068.28 |
| Task 3.23 | **TTP 23:**<br>**Low power miniaturized contact-less BIOimpedance Measurement Device – BIOMeD** | | | | |
| | **JSI** | Hyb, proizvodnja hibri dnih vezij, d.o.o. | May 2015 – Oct 2016 | €25,000.00 | €8,500.00 |
| Task 3.24 | **TTP 24:**<br>**ENRICH: Providing richer search environments for search engines** | | | | |
| | **CIT UPC** | Sparsity Technologies | May 2015 – Apr 2016 | €25,795.00 | €41,000.00 (manpower) |
| Task 3.25 | **TTP 25:**<br>**L4Re Predictable Runtime Environment (L4-P-Re)** | | | | |
| | **UU** | Kernkonzept GmbH | May 2015 – Oct 2016 | €33,859.00 | €35,310.00 (manpower) |
| Task 3.26 | **TTP 26:**<br>**Mobile platform for real-time sonification of movements for medical rehabilitation** | | | | |
| | **LUH** | MediTECH Electronic GmbH | May 2015 – Feb 2016 | €35,000.00 | €50,000.00 |
| Task 3.27 | **TTP 27:**<br>**IP DIME: Image Processing to Detect Hidden Defects in Manufactured Electronics** | | | | |
| | **LJMU** | Delphi Electronics and Safety | May 2015 – Jan 2016 | €32,392.00 | €87,949.00 (manpower) |
| Task 3.28 | **TTP 28:**<br>**Wearable Multifunctional Body Sensor (MedSens)** | | | | |
| | **JSI** | Savvy | May 2015 – Apr 2016 | €29,113.00 | €20,000.00 (cash) + €25,000.00 (manpower) |
| Task 3.29 | **TTP 29:**<br>**SemBoost: order-of-magnitude performance Boost for a leading Semantic engine** | | | | |
| | **UNIMORE** | Expert System s.r.l. | May 2015 – Feb 2016 | €29,999.00 | €40,000.00 |
| Task 3.30 | **TTP 30:**<br>**Advanced Computational Drug Discovery Technologies using High Performance Computing Architectures (ACDDT-HPC)** | | | | |
| | **UCAM** | Artificial Intelligence Talentum | May 2015 – Apr 2016 | €22,744.88 | €25,035.40 (manpower) |
| Task 3.31 | **TTP 31:**<br>**TEchnology Transfer for RFID Assessment in Cake supply chain (TETRACAKE)** | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | **USALENTO** | MARTINUCCI S.R.L. | May 2015 – Apr 2016 | €35,000.00 | €37,450.00 (manpower) |
| Task 3.32 | **TTP 32:**<br>**Power aware multicore software mapping** | | | | |
| | RWTH | Silexica Software Solutions GmbH | Sep 2015 – Feb 2016 | €25,000.00 | €100,000.00 |
| Task 3.33 | **TTP 33:**<br>**High-speed instruction set simulator for Movidius SHAVE core** | | | | |
| | UEDIN | Movidius | Jun 2015 – Mar 2016 | €50,000.00 | €50,000.00 (manpower) |
| Task 3.34 | **TTP 34:**<br>**FER Home Health Smart TV Integration in eHealth clients (FHTV)** | | | | |
| | UZAGREB | MCS Grupa d.o.o. | Jan 2016 – Jul 2016 | €29,193.00 | €29,327.00 (manpower) |
| Task 3.35 | **TTP 35:**<br>**CK/CLsmith: An Automated Testing Framework for Many-Core Vendor Tools** | | | | |
| | IMC | dividiti | Jan 2016 – May 2016 | €30.132,27 | €32,500.00 |
| Task 3.36 | **TTP 36:**<br>**AUTOMAP: Tool for automatic mapping of AUTOSAR runnables to multicore automotive architectures** | | | | |
| | TUDENMARK | Volvo Technology AB | Jan 2016 – Jun 2016 | €44,998.00 | €25,000.00 |
| Task 3.37 | **TTP 37:**<br>**Cloud-based Monitoring and Analysis for Lithium-Ion Electrical Energy Storage Systems (cMALEESS)** | | | | |
| | ULUEBECK | LION Smart GmbH | Jan 2016 – Jun 2016 | €29,748.00 | €34,700.00 (manpower) |
| Task 3.38 | **TTP 38:**<br>**Lab-on-Skin with Zero-Power Interface** | | | | |
| | EPFL | Xsensio | Jan 2016 – Jul 2016 | €40,018.00 | €45,000.00 |
| Task 3.39 | **TTP 39:**<br>**Non-contact, non-intrusive machine vision-based in-vehicle distraction sensor (mDrive)** | | | | |
| | UL | TiBoPo d.o.o. | Jan 2016 – Jun 2016 | €11,331.30 | €12,000.00 |
| Task 3.40 | **TTP 40:**<br>**HaVaSHet: Handling Variability and Scalability in the presence of Heterogeneity** | | | | |
| | TUDRESDEN | Silexica Software Solutions GmbH | Jan 2016 – Jun 2016 | €29,499.00 | €29,500.00 (manpower) |
| Task 3.41 | **TTP 41:**<br>**Systems and Monitoring Apparata based on Reflectometric Techniques for Agricultural aPPlications (SMART_APP)** | | | | |
| | USALENTO | Sysman Progetti & Servizi S.R.L. | Jan 2016 – Jun 2016 | €34,989.00 | €35,000.00 (manpower) |
| Task 3.42 | **TTP 42:**<br>**Dynamic Thermal Rating of overhead power lines in icing conditions (DTRi)** | | | | |
| | JSI | ELES, Ltd., Electricity Transmission System Operator | Jan 2016 – Jul 2016 | €30,478.95 | €25,000.00 (cash) + €15,000.00 (manpower) |
| Task 3.43 | **TTP 43:** | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | **LibARITH - A Highly Optimized Arithmetic Software Library and Hardware Co-processor IP for Fixed-Point VLIW-SIMD Processor Architectures** | | | | |
| | LUH | videantis GmbH | Jan 2016 – Jul 2016 | €24,999.48 | €40,000.00 (manpower) |
| Task 3.44 | **TTP 44:**<br>**Sub 1 GHz ISA100 technology for low cost and low power consumption embedded systems** | | | | |
| | TUCLUJ | Control Data Systems SRL | Jan 2016 – Jun 2016 | €24,999.00 | €5,000.00 |
| Task 3.45 | **TTP 45:**<br>**Fast CCA - Fast Connected Component Analysis (CCA) for flexible high-speed image processing** | | | | |
| | UNIKL | Wipotec GmbH | Jan 2016 – Jun 2016 | €29,885.10 | €32,000.00 (manpower) |
| Task 3.46 | **TTP 46:**<br>**TEchnology Transfer of RFID for Infrastructure Sensing (TETRIS)** | | | | |
| | USALENTO | STMicroelectronics | Jan 2016 – Jul 2016 | €36,701.00 | €36,700.00 (manpower) |
| Task 3.47 | **TTP 47:**<br>**Contactless smart MEMS-based piezo-resistive sensor (COSMOS)** | | | | |
| | EPU | AMG-Technology Ltd. | Jan 2016 – Jul 2016 | €13,000.00 | €13,000.00 (manpower) |
| Task 3.48 | **TTP 48:**<br>**Personalized Nutrition Control Aid for Insulin Patch Pump – PerNuCAP** | | | | |
| | JSI | IPD Med | Jan 2016 – Jul 2016 | €25,000.55 | €10,000.00 |
| Task 3.49 | **TTP 49:**<br>**CVS_PROTO_CER_QC- Computer Vision Station Prototype for Biscuit Tiles Quality Control** | | | | |
| | UOSIJEK | Keramika Modus d.o.o. | Jan 2016 – Jul 2016 | €20,000.00 | €20,000.00 (manpower) |
| Task 3.50 | **TTP 50:**<br>**Data representation optimisation for stencil computation** | | | | |
| | IMC | Corerain Technologies | Mar 2016 – Jul 2016 | €25,000.00 | €36,000.00 (manpower) |

All deliverables (D3.19 – D3.50) from the above individual TTPs are available.

In total, 11 TTPs were delayed mainly for (for details please see section explanation of the use of resources):

- formal reasons (staff recruiting problems, sick leave): TTP 3, 6, 9, 13, 16, 19, 27, 35
- for quality-related related issues (qualified staff, company partner's existing hardware to be used to start the actual technology adaption, additional requirements demanded by the company partner to implement the communication model): TTP 15, 18, 36:

Altogether, TETRACOM has achieved its initial goal of stimulating and supporting 50 individual TTPs in total.

# Project Management during the Period

# Work Package 4: Project Management

**Task 4.1: SC meetings**

Duration: M1-M36
Lead contractor: RWTH
Further contributors: all

*Organization, hosting, and documentation of the Steering Committee´s monthly telco meetings and at least one physical meeting per year by RWTH. A physical kickoff meeting will be organized at RWTH Aachen within 4 weeks after project start. All contractors will by default participate to all SC meetings, except in case unavailability due to urgent other matters. RWTH will also aim at arranging ad-hoc physical meetings on demand as satellite events of major conferences, HiPEAC meetings etc.*

## Months 1-8

The procedure for hosting regular SC meetings is as follows:

1. The next meeting time frame is determined according to necessities induced by the project schedule.
2. The coordinator determines a date where most SC members can attend.
3. The coordinator sends out the agenda proposal one week before the meeting date.
4. The SC meeting takes place, usually via phone and Webex access kindly provided via the HiPEAC network.
5. The coordinator sends out the meeting minutes shortly afterwards.

So far the following SC meetings took place:

1. Sep 23, 2013 (kickoff meeting in Aachen)
2. Oct 21, 2013 (webex)
3. Nov 25, 2013 (webex)
4. Jan 21, 2014 (personal meeting at the HiPEAC conference in Vienna)
5. Mar 17, 2014 (webex)
6. Apr 2, 2014 (webex)

## Months 9-18

The following SC meetings took place during the second project period:

1. May 13, 2014 (personal meeting at 1st project view, Barcelona)
2. Jun 26, 2014 (webex)
3. Sep 19, 2014 (personal meeting at 1st IAB meeting, Brussels)

4. Nov 13, 2014 (webex)
5. Jan 8, 2015 (webex)
6. Feb 17, 2015 (webex)

All meeting minutes are confidentially available on request.

### Months 19-36

The following SC meetings took place during the third project period:

7. Apr 20, 2015 (webex)
8. May 5, 2015 (personal meeting at 2nd project view, Oslo)
9. Aug 4, 2015 (webex)
10. Sep 23, 2015 (TETRACOM public workshop, SC meeting, IAB meeting)
11. Nov 25, 2015 (webex)
12. Feb 11, 2016 (webex)
13. Apr 13, 2016 (webex)
14. Jun 21, 2016 (personal meeting at the final SC meeting, Aachen)

All meeting minutes are confidentially available on request.

**Task 4.2: IAB meetings**

Duration: M10-M36
Lead contractor: INRIA
Further contributors: all

*Organization, hosting, and documentation of one physical meeting of the SC with the TETRACOM Industrial Advisory Board per year. These meetings will be managed and invited by INRIA. Since the IAB meetings constitute the major reflection points for the entire project strategy, they form milestones MI1-3.*

### Months 1-8

While extensive industrial involvement in TETRACOM is guaranteed by design, the project consortium only consists of academic contractors. To facilitate the establishment and adaptation of long-term TT strategies, and to collect feedback from independent, management-level industry experts, the project relies on a small-scale Industrial Advisory Board (IAB). Note that for sake of independence, IAB members cannot be personally involved in concrete TTPs themselves.

The current IAB is composed of three industry leaders with a unique experience of scientific and technological research transferred into concrete innovations and production environments.

- Dr. Tero Rissa, Distinguished Engineer, Nokia Technologies
- Dr. ir. Martijn Rutten, CEO, Vector Fabrics
- Dr. Matthias Weiss, Manager Systems Engineering, Intel Mobile Communications, Dresden

## Months 9-18

The first IAB meeting took place in Brussels on Sep 19, 2014. All IAB and SC members attended the meeting. The agenda included:

- Detailed presentation of the TETRACOM concept and status (R. Leupers)
- Sample TTP presentations by UPISA and UGENT (L. Fanucci, K. De Bosschere)
- Open discussion between IAB and SC

The detailed meeting minutes are (confidentially) available on request. Informally, the major feedback points were:

| |
|---|
| *Academics should actively search for companies to make TETRACOM and TTP results widely visible also to yet unknown companies.* |
| *Push researchers to mobilize their own contacts with industry partners and to encourage more and more participants to take part in technology transfer.* |
| *Invite experts, reviewers, TTP success stories, etc. to the main workshop, connect the workshop with the HIPEAC event, create strong synergies between HIPEAC and TETRACOM to reach more people.* |
| *Key question is how to measure the impact of the TTPs.* |
| *Ask the applicants how they heard about the call (via website, through mailings, press articles, business contacts, TETRACOM partners, other, etc.).* |
| *The presented achievements are very impressive. TETRACOM aims to support real IP transfer for a concrete usage vs. just broadcasting and hence is one of the first of its kind.* |
| *In contrary to other initiatives the size per TTP is very suitable, i.e. 3 page proposals for approx. one man year avoid heavy process overhead.* |
| *Number of proposals received in first iteration shows a very good traction.* |
| *Attempt to link to other similar initiatives to further widen acceptance.* |
| *Scope should be further streamlined, given the medium sized budget and high number of imitative to support.* |
| *The learnings from this initiative should be actively used to form successive programs and find further novel ways to foster academia to industry transfer.* |
| *The structure of supporting universities and not industry directly seems to be the best way for such a program.* |
| *Also, the approach to support projects with companies outside EU as long as they have EU business is very suitable.* |
| *This activity is very important to tap on academia's huge innovation potential for fostering new business and enterprises.* |

| |
|---|
| *The challenge will be to go from papers to business cases. TETRACOM might be the right way to find a solution. Technology transfer is a very difficult item to tackle TETRACOM fills a clear void of transferring smaller bodies of work.* |
| *Lean process with a 2/3 page proposal matches the available funding.* |
| *The funding of approx. 30k per project matches with academic work that is too small to spin off as a company.* |
| *Local communities and governments develop similar initiatives to facilitate academic technology transfers. While it is infeasible to link to all these communities, I would like to see at the very minimal a more direct attempt to align through direct contacts.* |
| *As academic technology transfer is known to be hard, I would like to see TETRACOM having an explicit goal to learn from the transfers and share this with the community.* |
| *As a learning instrument, it would be good to compare the TRL as filled in by the academic organization by the TRL as assessed by the receiving company, and document the learning. As a first step, the TRL should be entered as a list of acceptance criteria.* |

The SC drew the following main conclusions from the discussions with the IAB:

- In general, the TETRACOM project concept and instruments are very well received also from the industrial perspective.
- There should be more outreach activities, which motivated the corresponding proposed change of task T2.2. Next to this, TETRACOM needs to continue to reach new actors via its TTI activities within WP2 and its tight link to the HiPEAC network (see also the mini-survey results mentioned in task T1.1).
- In line with the reviewers´ recommendations, more emphasis should be put on concrete impact measurement. For this purpose, the TTP impact questionnaire (Annex E) has been developed, and the TRL has been included as a new evaluation criterion in the TTP proposal template.

### Months 19-36

The second IAB meeting took place in Milano on Sep 23, 2015. The agenda included:

- Detailed presentation of the TETRACOM concept and status (R. Leupers)
- Intermediate impact report (A. Cohen)
- Open discussion between IAB and SC

The detailed meeting minutes are (confidentially) available on request. Informally, the major feedback points were:

| |
|---|
| *TTP proposal reviewers should give clear comments pointing out why which selection was made Push researchers to mobilize their own contacts with industry partners and to encourage more and more participants to take part in technology transfer.* |
| *Start-up creation target should not be 0. TETRACOM should indeed not compete with a start-up creation but it would be valuable to show that people (e.g. PhD students) have been thinking about business plans thanks to the TT experience (e.g. is it worth to make a product out of it?)Key question is how to measure the impact of the TTPs.* |

| |
|---|
| *Complement the impact questionnaire with a very short one for industry The presented achievements are very impressive. TETRACOM aims to support real IP transfer for a concrete usage vs. just broadcasting and hence is one of the first of its kind.* |
| *Look for further actions to increase awareness at potential partners for successful TT Number of proposals received in first iteration shows a very good traction.* |
| *Collect TRL from both industry and academic partners.* |
| *Pro-actively help TTP applicants at best possible prior to submission.* |
| *Draft a paper about facilitating TT and lessons learned (what went right? What went wrong? How to make it better.).* |
| *A broad variety of demanding topics addressed shows that there is a lot of potential for technology transfer. The topics fit very well to the HIPEAC community.* |
| *TTP implementation is successful; communication with TTP runners is well set.* |
| *Put emphasis on the learning process (what has been learned, what went wrong, what can be improved).* |
| *Collect testimonials.* |
| *Distinguish between the impact evaluation and the White Paper work.* |

The third IAB meeting will take place via tele-conference on Sep 22, 2016. The results will be summarized during the final project review meeting.

### Task 4.3: Central administration

Duration: M1-M36
Lead contractor: RWTH
Further contributors: all

| |
|---|
| *Management of incoming and outgoing consortium members, contract and amendment handling, consortium agreement handling, financial and cost claims management, communications with E.C. representatives, general project reporting, travel cost reimbursement, organization/preparation of E.C. project review meetings, preparation of deliverables D4.1-D4.3, quality control of all deliverables.* |

#### Months 1-8

The following administrative subtasks have been carried out during months 1-8:

- **Assignment of project staff**: Dipl.-Ing. Maximilian Odendahl from RWTH´s ICE institute assists the coordinator in the day-to-day management tasks. Mrs. Malgorzata Kögerler and Mr. Sebastian Dornieden from RWTH´s central administration are responsible for handling all financial and contractual project matters.
- **Negotiation of the Consortium Agreement**: An agreement specifying the partners´ mutual rights and duties has been agreed and signed at RWTH Aachen University on July 9, 2013.
- **Deliverables management**: Planning and management of deliverables D2.1, D2.5, and D4.1.

- **EC communication**: RWTH staff participated in the ICT Project Coordinators Day, Mar 13, 2014 in Brussels. The coordinator met the project officer for a 1:1 discussion on project status and strategies on April 8, 2014 in Brussels.
- **Pre-financing**: The pre-financing payment to the TETRACOM consortium has been received by RWTH Aachen and amounted to 1,300,201 EUR after deduction of the beneficiaries' contribution to the Guarantee Funds. After all partners had acceded to the grant agreement (signed by the Commission on July 10, 2013), the pre-financing was distributed by RWTH Aachen to the partners on time for the project period 1.9.2013-1.3.2015. The calculation of pre-financing for each partner was based on the budget distribution planning outlined in the DoW and is summarized below.

| Participant | Share | EU Contribution | Pre-financing | Remaining |
|---|---|---|---|---|
| TTPs | 0,488 | 974.000 € | 634.472 € | 339.528 € |
| **RWTH** | 0,156 | 312.252 € | 203.404 € | 108.848 € |
| RWTH + TTPs | 0,644 | 1.286.252 € | 837.876 € | 448.376 € |
| **UEDIN** | 0,055 | 109.889 € | 71.583 € | 38.306 € |
| **UGent** | 0,055 | 109.889 € | 71.583 € | 38.306 € |
| **INRIA** | 0,055 | 109.889 € | 71.583 € | 38.306 € |
| **Uni PISA** | 0,048 | 95.016 € | 61.894 € | 33.122 € |
| **TU Delft** | 0,048 | 95.016 € | 61.894 € | 33.122 € |
| **TUT** | 0,048 | 95.016 € | 61.894 € | 33.122 € |
| **Imperial** | 0,048 | 95.016 € | 61.894 € | 33.122 € |
| **∑** | **100%** | **1.995.983 €** | **1.300.201 €** | **695.782 €** |

## Months 9-18

The following administrative subtasks have been carried out during months 9-18:

- **Assignment of project staff:** Dipl.-Ing. Jan Weinstock from RWTH´s ICE institute assists the coordinator in the day-to-day management and reporting tasks. Mrs. Eva Haas and Mr. Sebastian Dornieden from RWTH´s central administration are responsible for handling all financial and contractual project matters.
- **SC/IAB meetings, regular SC telephone conferences and jour-fix appointments** to monitor the status, issues, event planning and highlights as well as defining next steps (meetings, agenda, individual discussions, minutes, follow-up)
- **Deliverables management**: Planning and management of deliverables D1.1, D2.2, all available D3.x, and D4.2.
- **General, financial and contractual project matters:**
    - Clarification of CSA processes and reporting tasks with the German National Contact Point and the European Commission
    - Preparation of guidelines and templates for the first periodic report
    - Regular exchange by email and phone with project partners for clarification of general and financial questions (ECAS, Form C, use of resources, payments)

    - Draft and maintain the payment master excel list to monitor the percentage of payment and remaining EU contribution per partner on a regular basis
    - Regular monitoring of the status of all TTPs, collect deliverables and impact questionnaires
- **Execution of the TTP call 1 and 2 amendment request for the accession of new partners to the TETRACOM consortium:**
    - Clarification of an amendment process within the framework of a CSA project with the European Commission
    - Draft and maintain the TTP master excel list to provide an overview of all details at any time to the Coordinator and the SC members
    - Draft templates and contact call 1 + 2 partners requesting information on legal data, budget and financial identification; check key facts (start/end date, person-months, budget)
    - Clarification of the new partners' questions regarding their role within the consortium, the pre-payment and financial aspects
    - Formal tasks of the amendment no. 1: amendment request letter, ECAS registration and budget allocation, update of the Technical Annex I, collection of GA accession form, GPF and CA
    - Appointments with the RWTH department for third-party funds to explain the amendment process, budget allotments and other requests
    - Pre-payment to new call 1 partners (50%)
    - Start of the call 2 amendment request
- **Arrangements for spreading out the open calls** via the Transfer Technology department at RWTH

## Months 19-36

The following administrative subtasks have been carried out during months 19-36:

- **Assignment of project staff:** Dipl.-Ing. Jan Weinstock from RWTH´s ICE institute assists the coordinator in the day-to-day management and reporting tasks. Mrs. Eva Haas at the EU project management department from RWTH´s central administration is responsible for handling all contractual, financial and reporting project matters.
- **SC/IAB meetings, regular SC telephone conferences and jour-fix appointments between the project administrator and the coordinator** as well as bilateral conversations by phone/mail with individual partners to monitor the status, issues, event planning and highlights as well as defining next steps (meetings, agenda, individual discussions, minutes, follow-up)
- **Preparation of the financial situation and presenting them** at the technical review meetings in Oslo/DK (May 2015) and in Brussels/BE (November 2016): report on payments, staff efforts and costs, deviations and shiftings, etc.
- **Deliverables management**: Planning and management of deliverables D1.2, D1.3, D1.4, D1.5, D2.3, D2.4, D2.6, all D3.5 – D3.7 / D3.9-10 / D3.13 / D3.15 – D3.50, D4.3.
- **General, financial and contractual project matters:**
    - Prepare guidance notes, templates and checklist for the periodic progress report for period 2 and for the final report
    - Preparation of reporting tasks (administration report, financial report and RWTH-internal audits, dissemination aspects)

- Close communication and regular exchange by email and phone with project partners, in particular with all call 1-3 partners during the entire TTP conclusion from the selection phase until the end phase, for clarification of general and financial questions (ECAS/role assignment/technical hurdles; understanding of budget, costing and indirect cost calculation; explanation of and excel template provided for Form C, use of resources; understanding of pre-payment, interim, final payment)
- Update, improve and maintain the payment master excel list to monitor the costs, the percentage of payments received, and the remaining EU contribution per partner on a regular basis
- Calculation and distribution of the 1st interim payment to all SC partners and call 1 partners after the EC's acceptance of the EC Periodic Report for period 1
- Regular monitoring of the status of all TTPs, collect deliverables and impact questionnaires

- **Execution of the TTP call 2 and 3 amendment request for the accession of new partners to the TETRACOM consortium:**
  - Update, improve and maintain the TTP master excel list on all relevant key facts, issues during implementation phase, any interim feedback on the TTP progress, status on requirements, etc. to provide all details at any time to the coordinator and the SC members
  - Explain and guide all new partners along the amendment process within the framework of a CSA project
  - Update templates and contact call 2 + 3 partners requesting information on legal data, budget and financial identification; check key facts (start/end date, person-months, budget)
  - Clarification of the new partners' questions regarding their role within the consortium and the contents of the CA, the pre-payment and financial aspects
  - Conclusion of amendment no. 2 and full preparation and conclusion of amendment no. 3: amendment request letter, ECAS registration and budget allocation, update of the Technical Annex I, collection of GA accession form, GPF and CA
  - Appointments with the RWTH department for third-party funding to inform on the amendment no. 2 + 3 process, budget allotments and shifts as well as other requests, preparation of all RWTH-internal budget allotment documents
  - Preparation and distribution of the pre-payments to all call 2 + 3 partners (50%)
  - Draft and update regularly TTP statistics of each call (number, countries, company types, categories and application fields, etc.)
- **Organisation of the TETRACOM booth at DATE 2016 in Dresden/DE** (booth order and staffing, poster prints,…) and individual conversations with conference visitors regarding TETRACOM TTP concept, application and mutual benefits, and also with project partners on reporting and financial matters
- **Collection of offers, verification and place in order the revision of the new TETRACOM website; support in drafting the new website concept in** close communication with the coordinator and the web agency; prepare all information to be published at the new website; final check of the website and its contents
- **Regular update of website** (sections funded projects, partners' information and company profiles, news, impact)
- **Support and prepare input for different dissemination activities**
  - Draft and deliver statistics/some input for the SaE workshop, Brussels, June 2016

- Article published in a deliverable of the HORIZON 2020 funded project EXDCI (European Extreme Data & Computing Initiative EXDCI)
- Consultation of the SME associations ETP4HPC and UEAPME to support TETRACOM via distributing the press article to their members
- Consultation of the RWTH departments Technology Transfer/Alumni/Public Relations to spread out information and interim results

In addition to the planned dissemination activities as described in the DoW, the following dissemination activities have been carried out during months 19-36 addressing the scientific community, the industry/SME sector and any interested stakeholders in Europe.

To disseminate TETRACOM and its TTPs as well as significant impact results the key dissemination activities and different communication means are described in detail in the Deliverables D2.3 and D2.4; in addition, a number of interim dissemination activities were carried out:

- Postings via the SoCInfo communication channel from TETRACOM SC partner TUT
- CORDIS Wire: http://cordis.europa.eu/news/rcn/134155_en.html
- Regular updates on the impact and any news at the TETRACOM project website, at the partners' websites, at LinkedIn and Twitter.
- English-language media (ACM TechNews, Electronic Product Design and Test, Engineering and Technology Magazine, EETimes Europe, Tech.eu, Science node, Primeur Magazine, Scientific Computing World, Silicon Republic, EU Startups.com, Telecompaper, EurActiv)
- Spanish-language media (Convertronic, Innova Spain, Publicaciones Informáticas MKM Grupo Atenea, Instituto de la Ingeniería de España)
- Revista Byte (Publicaciones Informáticas MKM): http://www.revistabyte.es/actualidad-byte/tetracom-ejemplo-de-transferencia/
- Postings via the RWTH Alumni mailing list (5000 SME/industry contacts mainly in Europe but also worldwide)
- Talk given by R. Leupers, Workshop Why CAIRES 2016?: organized by Bosch Corporate Research , October 6, ESWeek 2016, Pittsburgh/USA
- Presentation by G. Fursin, TTP partner CTUNING/ARM at ARM TechCon'16, Santa Clara/USA
- Numerous presentations by individual TTP partners at different conferences

## Deliverables and milestones tables

| Del. no. | Deliverable name | WP no. | Lead beneficiary | *Nature* | Dissemination level | Delivery date from Annex I (proj month) | Actual / Forecast delivery date dd/mm/yyyy | Status Not submitted/ Submitted | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1.1 | TTP calls statistics 1 | 1 | UEDIN | R | PU | 18 | 05/03/2015 | submitted | |
| 1.2 | TTP calls statistics 2 | 1 | UEDIN | R | PU | 36 | 31/08/2016 | submitted | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.3 | TTP impact report 1 | 1 | INRIA | R | CO | 21 | 04/08/2015 | submitted | Postponed from March 2015 according to DoW |
| 1.4 | TTP impact report 2 | 1 | INRIA | R | CO | 36 | 31/08/2016 | submitted | |
| 1.5 | TETRACOM White Paper | 1 | INRIA | R | PU | 36 | 31/08/2016 | submitted | |
| 2.1 | TTI report 1 | 2 | UGENT | R | PU | 8 | 30/04/2014 | submitted | |
| 2.2 | TTI report 2 | 2 | UGENT | R | PU | 18 | 28/02/2015 | submitted | |
| 2.3 | TTI report 3 | 2 | UGENT | R | PU | 36 | 31/08/2016 | submitted | |
| 2.4 | TETRACOM main workshop | 2 | UGENT | O | PU | 24 | 31/10/2015 | submitted | |
| 2.5 | Kickoff press release | 2 | UGENT | R | PU | 3 | 06/01/2014 | submitted | |
| 2.6 | Final press release | 2 | UGENT | R | PU | 36 | 29/06/2016 | submitted | |
| 3.1 | TTP abstract | 3 | RWTH | R | PU | 11 | 31/07/2014 | submitted | |
| 3.2 | TTP abstract | 3 | UGENT | R | PU | 14 | 15/11/2014 | submitted | |
| 3.3 | TTP abstract | 3 | PISA | R | PU | 16 | 26/02/2015 | submitted | Completed as planned but abstract delivery delayed due to long-term mandatory company partner review |
| 3.4 | TTP abstract | 3 | TU DELFT | R | PU | 18 | 25/02/2015 | submitted | |
| 3.5 | TTP abstract | 3 | UL | R | PU | 23 | 31/07/2015 | submitted | |
| 3.6 | TTP abstract | 3 | TUE | R | PU | 19 | 20/12/2015 | submitted | Delayed start because of staff recruiting problems/late GA completion |
| 3.7 | TTP abstract | 3 | UPC | R | PU | 25 | 30/09/2015 | Submitted | |
| 3.8 | TTP abstract | 3 | U SALENTO | R | PU | 19 | 18/02/2015 | Submitted | |
| 3.9 | TTP abstract | 3 | LJMU | R | PU | 25 | 04/12/2015 | Submitted | Delayed because of visa processing problems/late GA completion |
| 3.10 | TTP abstract | 3 | TUE | R | PU | 22 | 30/06/2015 | Submitted | |
| 3.11 | TTP abstract | 3 | UNIKL | R | PU | 19 | 24/02/2015 | Submitted | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.12 | TTP abstract | 3 | TUB | R | PU | 17 | 11/02/2015 | Submitted | |
| 3.13 | TTP abstract | 3 | CTUNING | R | PU | 20 | 30/06/2015 | Submitted | Delayed because of late GA completion and full-time engineering recruitment. |
| 3.14 | TTP abstract | 3 | RWTH | R | PU | 17 | 23/02/2015 | Submitted | |
| 3.15 | TTP abstract | 3 | INRIA | R | PU | 23 | 21/12/2015 | Submitted | Delayed because of PhD staff recruitment difficulties |
| 3.16 | TTP abstract | 3 | IMC | R | PU | 21 | 04/02/2015 | Submitted | Delayed because of long-term sick leave and late contract completion with company |
| 3.17 | TTP abstract | 3 | UNIPI | R | PU | 21 | 31/05/2015 | Submitted | |
| 3.18 | TTP abstract | 3 | TUT | R | PU | 29 | 31/08/2016 | submitted | Delayed because of issues related to company's existing hardware and difficulties with the actual technology adaptation |
| 3.19 | TTP abstract | 3 | UROS | R | PU | 32 | 30/05/2016 | Submitted | Delayed because of maternity leave |
| 3.20 | TTP abstract | 3 | TUS | R | PU | 30 | 26/02/2016 | Submitted | |
| 3.21 | TTP abstract | 3 | UNIKL | R | PU | 25 | 30/09/2015 | Submitted | |
| 3.22 | TTP abstract | 3 | UPV | R | PU | 29 | 31/01/2016 | Submitted | |
| 3.23 | TTP abstract | 3 | JSI | R | PU | 26 | 31/10/2015 | Submitted | |
| 3.24 | TTP abstract | 3 | CIT UPC | R | PU | 32 | 03/05/2016 | Submitted | |
| 3.25 | TTP abstract | 3 | UU | R | PU | 26 | 02/11/2015 | Submitted | |
| 3.26 | TTP abstract | 3 | LUH | R | PU | 30 | 29/02/2016 | Submitted | |
| 3.27 | TTP abstract | 3 | LJMU | R | PU | 29 | 31/07/2016 | Submitted | Delayed because of late GA completion and staff recruiting problems |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.28 | TTP abstract | 3 | JSI | R | PU | 32 | 22/04/2016 | Submitted | |
| 3.29 | TTP abstract | 3 | UNIMORE | R | PU | 30 | 08/03/2016 | submitted | |
| 3.30 | TTP abstract | 3 | UCAM | R | PU | 32 | 29/04/2016 | Submitted | |
| 3.31 | TTP abstract | 3 | USALENTO | R | PU | 32 | 28/04/2016 | submitted | |
| 3.32 | TTP abstract | 3 | RWTH | R | PU | 30 | 09/03/2016 | Submitted | |
| 3.33 | TTP abstract | 3 | UEDIN | R | PU | 31 | 07/04/2016 | Submitted | |
| 3.34 | TTP abstract | 3 | UZAGREB | R | PU | 35 | 15/07/2016 | Submitted | |
| 3.35 | TTP abstract | 3 | IMC | R | PU | 33 | 28/07/2016 | submitted | Delayed because staff recruited changed jobs |
| 3.36 | TTP abstract | 3 | TUDENMARK | R | PU | 34 | 27/07/2016 | Submitted | Delayed because of additional requirements to implement additional communication models besides AUTOSAR |
| 3.37 | TTP abstract | 3 | ULUEBECK | R | PU | 34 | 28/06/2016 | submitted | |
| 3.38 | TTP abstract | 3 | EPFL | R | PU | 35 | 22/07/2016 | Submitted | |
| 3.39 | TTP abstract | 3 | UL | R | PU | 34 | 01/07/2016 | Submitted | |
| 3.40 | TTP abstract | 3 | TUDRESDEN | R | PU | 34 | 29/06/2016 | submitted | |
| 3.41 | TTP abstract | 3 | USALENTO | R | PU | 34 | 27/06/2016 | Submitted | |
| 3.42 | TTP abstract | 3 | JSI | R | PU | 35 | 08/07/2016 | Submitted | |
| 3.43 | TTP abstract | 3 | LUH | R | PU | 35 | 14/07/2016 | Submitted | |
| 3.44 | TTP abstract | 3 | TUCLUJ | R | PU | 34 | 10/06/2016 | Submitted | |
| 3.45 | TTP abstract | 3 | UNIKL | R | PU | 34 | 01/07/2016 | Submitted | |
| 3.46 | TTP abstract | 3 | USALENTO | R | PU | 35 | 18/07/2016 | Submitted | |
| 3.47 | TTP abstract | 3 | EPU | R | PU | 35 | 12/07/2016 | submitted | |
| 3.48 | TTP abstract | 3 | JSI | R | PU | 35 | 06/07/2016 | Submitted | |
| 3.49 | TTP abstract | 3 | UOSIJEK | R | PU | 35 | 19/07/2016 | Submitted | |
| 3.50 | TTP abstract | 3 | IMC | R | PU | 35 | 25/07/2016 | Submitted | |
| 4.1 | Periodic project | 4 | RWTH | R | PU | 8 | 30/04/2014 | submitted | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | report 1 | | | | | | | | |
| 4.2 | Periodic project report 2 | 4 | RWTH | R | PU | 18 | 28/02/2015 | submitted | |
| 4.3 | Periodic project report 3 | 4 | RWTH | R | PU | 36 | 31/08/2016 | submitted | |

**TABLE 2. MILESTONES**

| Milestone no. | Milestone name | Work package no | Lead beneficiary | Delivery date from Annex I dd/mm/yyyy | Achieved Yes/No | Actual / Forecast achievement date dd/mm/yyyy | Comments |
|---|---|---|---|---|---|---|---|
| **1** | **Call for TTPs 1** | **1** | **TUT** | **15/02/2014** | **yes** | **15/02/2014** | |
| **2** | **Call for TTPs 2** | **1** | **TUT** | **15/11/2014** | **yes** | **15/11/2014** | |
| **3** | **Call for TTPs 3** | **1** | **TUT** | **15/08/2015** | **yes** | **15/08/2015** | |
| **4** | **IAB meeting 1** | **4** | **INRIA** | **31/08/2014** | **yes** | **19/09/2014** | |
| **5** | **IAB meeting 2** | **4** | **INRIA** | **31/08/2015** | **yes** | **23/09/2015** | **During HiPEAC CSW** |
| **6** | **IAB meeting 3** | **4** | **INRIA** | **31/08/2016** | **yes** | **22/09/2016** | |

## Explanation of the use of the resources and financial statements

All beneficiaries have applied the EC's principles 1 – 3 when filling the Use of Resources for the reporting period 2. A detailed explanation of the use of resources per cost activity and category (personnel, travel, consumables, equipment, subcontracting) is shown in the financial reporting of each partner and summarized below.

**Staff efforts planned and used**

The following tables summarize the overall planned and used person-months of the Steering Committee members per work package and the call 1-3 partners in WP3.

*SC members' staff efforts for the overall project run time*

***Table 1:*** *SC members' staff efforts for period 1*

| PM project run time / PM used period 1 | RWTH | | UEDIN | | UGENT | | INRIA | | UNIPI | | TUDELFT | | TUT | | IMPERIAL | | TOTAL PM PLAN RUN TIME | TOTAL PM USED PERIOD 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | plan | used | plan | used | plan | used | plan | used | plan | used | plan | used | plan | used | plan | used | | |
| WP1 | 1 | **0** | 4 | **5** | 1 | **0** | 3 | **0,8** | 2 | **0,85** | 1 | **0** | 3 | **0,7** | 1 | **0** | **16** | **7,35** |
| WP2 | 1 | **0** | 1 | **0,7** | 5 | **0,46** | 1 | **0,69** | 4 | **2,15** | 4 | **0,28** | 1 | **0** | 3 | **0,36** | **20** | **4,64** |
| WP3 | 12 | **12** | 9 | **7** | 5 | **6,74** | 8 | **5,24** | 11 | **6,47** | 8 | **2,29** | 7 | **0** | 5 | **0** | **65** | **39,74** |
| WP4 | 20 | **1,82** | 1 | **0,1** | 1 | **0,89** | 2 | **1,25** | 2 | **0,45** | 1 | **0,28** | 1 | **0,15** | 1 | **0,18** | **29** | **5,12** |
| TOTAL | 34 | **13,82** | 15 | **12,80** | 12 | **8,09** | 14 | **7,98** | 19 | **9,92** | 14 | **2,85** | 12 | **0,85** | 10 | **0,54** | **130** | **56,85** |

***Table 2:*** *SC members' staff efforts for period 2*

| PM project run time / PM used period 2 | RWTH | | UEDIN | | UGENT | | INRIA | | UNIPI | | TUDELFT | | TUT | | IMPERIAL | | TOTAL PM PLAN RUN TIME | TOTAL PM USED PERIOD 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | plan | used | plan | used | plan | used | plan | used | plan | used | plan | used | plan | used | plan | used | | |
| WP1 | 1 | **0,00** | 4 | **2,73** | 1 | **0,00** | 3 | **1,32** | 2 | **0,72** | 1 | **0,39** | 3 | **0,50** | 1 | **0,58** | **16** | **6,24** |
| WP2 | 1 | **0,00** | 1 | **0,12** | 5 | **5,90** | 1 | **1,00** | 4 | **2,32** | 4 | **2,20** | 1 | **0,00** | 3 | **2,00** | **20** | **13,54** |
| WP3 | 12 | **6,00** | 9 | **21,00** | 5 | **0,70** | 8 | **5,44** | 11 | **4,99** | 8 | **5,52** | 7 | **15,30** | 5 | **16,00** | **65** | **74,95** |
| WP4 | 20 | **8,00** | 1 | **0,65** | 1 | **0,58** | 2 | **0,97** | 2 | **0,43** | 1 | **0,56** | 1 | **0,00** | 1 | **0,00** | **29** | **11,19** |
| TOTAL | 34 | **14,00** | 15 | **24,50** | 12 | **7,18** | 14 | **8,73** | 19 | **8,46** | 14 | **8,67** | 12 | **15,80** | 10 | **18,58** | **130** | **105,92** |

***Table 3:*** *SC members' staff efforts for the overall run time of the project*

| PM project run time / PM used period 1 + 2 | RWTH | | UEDIN | | UGENT | | INRIA | | UNIPI | | TUDELFT | | TUT | | IMPERIAL | | TOTAL PM PLAN RUN TIME | TOTAL PM USED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | plan | used | plan | used | plan | used | plan | used | plan | used | plan | used | plan | used | plan | used | | |
| WP1 | 1 | **0,00** | 4 | **7,73** | 1 | **0,00** | 3 | **2,12** | 2 | **1,57** | 1 | **0,39** | 3 | **1,20** | 1 | **0,58** | **16** | **13,59** |
| WP2 | 1 | **0,00** | 1 | **0,82** | 5 | **6,36** | 1 | **1,69** | 4 | **4,47** | 4 | **2,48** | 1 | **0,00** | 3 | **2,36** | **20** | **18,18** |
| WP3 | 12 | **18,00** | 9 | **28,00** | 5 | **7,44** | 8 | **10,68** | 11 | **11,46** | 8 | **7,81** | 7 | **15,30** | 5 | **16,00** | **65** | **114,69** |
| WP4 | 20 | **9,82** | 1 | **0,75** | 1 | **1,47** | 2 | **2,22** | 2 | **0,88** | 1 | **0,84** | 1 | **0,15** | 1 | **0,18** | **29** | **16,31** |
| TOTAL | 34 | **27,82** | 15 | **37,30** | 12 | **15,27** | 14 | **16,71** | 19 | **18,38** | 14 | **11,52** | 12 | **16,65** | 10 | **19,12** | **130** | **162,77** |

*Call 1-3 partners' staff efforts in WP3 for the overall project run time*

***Table 2:*** *Call 1-3 partners' staff efforts in WP 3 for periods 1 and 2 and the overall project run time*

| partner no | Partner | TOTAL PM PLAN | TOTAL PM USED Period 1 (call 1) | TOTAL PM USED Period 2 (call 1-3) | TOTAL PM USED project run time |
|---|---|---|---|---|---|
| 9 | UL | 15,00 | 5,00 | 8,71 | **13,71** |
| 11 | TUE | 15,00 | 4,50 | 8,93 | **13,43** |
| 12 | UPC | 12,00 | 5,46 | 3,89 | **9,35** |
| 13 | USALENTO | 33,00 | 10,99 | 26,58 | **37,57** |
| 14 | LJMU | 24,30 | 0,23 | 18,06 | **18,29** |
| 15 | UNIKL | 15,00 | 6,00 | 9,50 | **15,50** |
| 16 | TUB | 5,00 | 5,00 | 0,00 | **5,00** |
| 17 | CTUNING | 7,00 | 4,67 | 2,33 | **7,00** |
| 18 | UROSTOCK | 12,00 | | 6,15 | **6,15** |
| 19 | TUS | 23,00 | | 23,00 | **23,00** |
| 20 | UPV | 4,50 | | 5,02 | **5,02** |
| 21 | JSI | 27,00 | | 21,61 | **21,61** |
| 22 | CIT UPC | 12,00 | | 14,00 | **14,00** |
| 23 | UU | 7,00 | | 5,00 | **5,00** |
| 24 | LUH | 15,00 | | 18,00 | **18,00** |
| 25 | UNIMORE | 6,00 | | 5,70 | **5,70** |
| 26 | UCAM | 12,00 | | 12,00 | **12,00** |
| 27 | UZAGREB | 10,40 | | 10,15 | **10,15** |
| 28 | TUDENMARK | 7,00 | | 11,47 | **11,47** |
| 29 | ULUEBECK | 6,00 | | 9,37 | **9,37** |
| 30 | EPFL | 5,00 | | 5,00 | **5,00** |
| 31 | TUDRESDEN | 6,00 | | 6,00 | **6,00** |
| 32 | UCLUJ | 6,90 | | 5,57 | **5,57** |
| 33 | EPU | 10,00 | | 11,10 | **11,10** |
| 34 | UOSIJEK | 3,50 | | 4,40 | **4,40** |
| | **TOTAL PM** | **299,6** | | | **293,39** |

All tasks of the work packages 1 - 4 have been implemented as described in Annex I and based on the changes identified in period 1, as presented, discussed and agreed upon at the last technical review meeting in Oslo/DK in May 2015.

WP1

- INRIA
  D1.3 (Technology Transfer Impact)
  The delivery of this Deliverable was rescheduled and completed in August 2015.

WP2

- IMPERIAL
  Task 2.2 (Central help desk)
  As explained and agreed upon in the last review meeting, this task on the central help desk was newly established and completed in period 2.

WP3

All individual TTPs were implemented successfully as planned in Annex I. Some practical issues encountered at the TTP start and during the implementation phase and led to some slight differences identified and solved as follows:

Formal reasons

Late GA signing, staff recruiting problems, sick leave, lack of qualified staff, company partner requirements

- TTP 15 (INRIA)
  Delayed because of lack of quality from the PhD staff recruited by 6 months
  Actual end date: December 2015
- TTP 16 (IMPERIAL, W. Luk)
  Delayed because of late contract conclusion with company and long-term sick leave by 3 months
  Actual end date: February 2016
- TTP 19 (UROS)
  Delayed because of maternity leave by 1 month
- TTP 27 (LJMU)
  Late GA signing by 7 months
  Actual end date: July 2016
- TTP 33 (UEDIN)
  More person-months were used because of the implementation of a second TTP.
  Actual end date: May 2016
- TTP 35 (IMPERIAL, A. Donaldson)
  Delayed because of staff recruiting problems by 2 months
  Actual end date: July 2016
- TTP 36 (TUDENMARK)
  Delayed because of additional requirements of the company partner in order to implement two additional communication models besides AUTOSAR
  Actual end date: July 2016

Legal issues

- TTP 40 (TUDRESDEN)
  Fair IP licence fees according to the EU legislation had to be clarified, discussed and agreed upon. This was done without leading to any delays. Hence, the TTP was executed as planned in Annex I.

- TTP 18 (TUT)
  The TTP was delayed by 7 months because of technology interoperability problems. These interfacing issues were solved, and the TTP completed with a reduced scope to meet the final deadline. The TTP partners are continuing to work on the transferred technology to extend and finalize the adaptation and evaluation after the TETRACOM project.
  Actual end date: August 2016

Increased number of person-months used / Execution of additional TTPs

As mentioned in period 1:

- RWTH
  Own left overs for WP4 were used for the execution of the additional TTPs 14 and 32.
- USALENTO
  Two additional laboratory technicians had to work on the successful TTP 8 implementation in order to carry out the demonstration activities for the company partner.

During period 2, the partners agreed on the following:

- UEDIN
  A second TTP 33 was implemented.
- ULUEBECK
  To put more efforts in the success of the technology transfer of TTP 19, more person-months were needed than initially planned.
- TUDENMARK
  Due to the additional requirements of the company partner, more person-months were needed for TTP 36 than initially planned.
- TUT
  As described above, more person-months were needed for TTP 18.
- IMPERIAL
  More person-months were needed for TTP 16. Own left overs were used for the execution of the additional TTP 50.
- LUH
  More person-months were needed for the TTPs 26 and 43.
- INRIA
  As described above, more person-months were needed for TTP 15.

In conclusion, 11 TTPs encountered some practical issues during the entire TETRACOM project run time which were clarified and did not lead to less successful results.

WP4

- RWTH:
  As explained during period 1, unexpected administrative hurdles (e.g. sick leave of administrative assistant, introduction of SAP) had led to the actually use of less person-months than planned by the coordinating team for the central and technical administration. In period 2, the number of person-month increased significantly because of the tasks on reporting preparation and the processing of the TTP calls 2 and 3 as well as regular monitoring of budget and fundings per partners and payments. Leftovers were used for additional TTPs carried out in WP3 to keep boosting the TTP activities in future.

**Other direct costs**

Coordinators' other direct costs and subcontracting

As planned in WP3, the granting amount for the TTP implementation of all calls during TETRACOM's entire run time was budgeted at the Coordinator's side. The following total EU contributions were allocated to the individual call 2 – 3 TTP partners in period 2:

- Total EU contribution allocated to the call 1 TTP partners (as stated in period 1): €308,731
- Total EU contribution allocated to the call 2 TTP partners: € 362,806
- Total EU contribution allocated to the call 3 TTP partners: € 429,976

In summary, the total EU contribution for all calls of €1,101,513 was allocated to the individual TTPs partners.

Further expenses incurred for meeting organization and for travelling to project meetings, technical review meetings and public conferences for dissemination activities (incl. conference entrance fees) as well as for TTP SME partners to participate in the public workshop "Smart Everything Anywhere" in Brussels (June 2016).

In addition, expenses for subcontracting incurred for the re-launch of the TETRACOM project website (as proposed and accepted by the EC on 22.03.16) and for the dissemination activities at the DATE 2016 conference in Dresden/DE (as proposed and accepted within the amendment no. 2).

**Table 1:** *Coordinator's other direct costs and subcontracting*

| | PROJECT RUN TIME | PERIOD 1 | PERIOD 2 | | TOTAL COSTS | Note |
|---|---|---|---|---|---|---|
| | PLAN | SPENT | SPENT | Justification | | |
| **Other direct costs** | | | | | | |
| others | 35.864,00 € | 1.250,00 € | 7.516,56 € | travel costs to project meetings, for dissemination activities and conference entrance fees; meeting organisation costs | **8.766,56 €** | Remaining budget were allocated to the TTPs |
| TTP allocation | 974.000,00 € | 308.731,00 € | 792.782,00 € | call 2 and 3 TTP implementation potential TTPs not planned during the proposal writing phase | **1.101.513,00 €** | |
| **Subcontracting** | - € | - € | 10.329,00 € | TETRACOM booth costs at DATE 2016 (Dresden/DE); TETRACOM project website re-launch | **10.329,00 €** | |

Other direct costs were covered by HiPEAC. Thanks to the close link between TETRACOM and this project several costs were efficiently used and covered to further ensure synergies (e.g. (travel) costs for dissemination). Additional minor costs for meeting organization and travelling were covered by own resources.

**Table 2:** *Steering Committee members' and call 1-3 partners' other direct costs*

Expenses incurred mainly for travelling to project meetings and to the individual TTP partners' company premises as well as to carry out dissemination activities at a high number of conferences and public events. In addition, costs occurred for consumables, equipment and other minor expenses.

| Partner | PLAN RUN TIME | PERIOD 1 | PERIOD 2 | Justification | TOTAL COSTS SPENT |
|---|---|---|---|---|---|
| | | spent | spent | | |
| **UEDIN** | 10.000,00 € | 4.503,00 € | 6.910,00 € | travel costs, TETRACOM reviews, consumables/components | **11.413,00 €** |
| **UGENT** | 13.000,00 € | 598,00 € | 3.351,00 € | NA | **3.949,00 €** |
| **INRIA** | 10.500,00 € | 6.374,00 € | 3.902,00 € | NA | **10.276,00 €** |
| **UNIPI** | 10.000,00 € | 4.171,00 € | 3.126,00 € | travel costs for meetings and dissemination | **7.297,00 €** |
| **TUDELFT** | 20.000,00 € | 698,00 € | 7.476,00 € | travel costs for meetings and dissemination | **8.174,00 €** |
| **TUT** | 12.000,00 € | 3.337,00 € | 4.951,00 € | travel costs for meetings and dissemination | **8.288,00 €** |
| **IMPERIAL** | 12.508,00 € | 837,00 € | 3.391,00 € | travel costs for TTPs and dissemination | **4.228,00 €** |
| **UL** | 2.000,00 € | 1.661,00 € | 874,00 € | NA | **2.535,00 €** |
| **TUE** | 2.800,00 € | 2.391,00 € | - € | | **2.391,00 €** |
| **UPC** | - € | - € | - € | | **- €** |
| **USALENTO** | 14.500,00 € | - € | 1.335,00 € | travel costs for TTPs and dissemination | **1.335,00 €** |
| **LJMU** | 8.975,00 € | 488,00 € | 1.817,00 € | travel costs and equipment as per beneficiaries purchase/depreciation rules | **2.305,00 €** |
| **UNIKL** | 14.983,00 € | - € | - € | | **- €** |
| **TUB** | 1.000,00 € | - € | - € | | **- €** |
| **CTUNING** | 7.000,00 € | 6.177,00 € | 848,00 € | travel costs for TTP and dissemination | **7.025,00 €** |
| **UROSTOCK** | 3.500,00 € | | 3.414,00 € | travel costs for TTP and dissemination | **3.414,00 €** |
| **TUS** | 1.945,00 € | | - € | | **- €** |
| **UPV** | 1.900,00 € | | - € | | **- €** |
| **JSI** | 5.700,00 € | | 6.722,00 € | travel costs for TTPs and dissemination; consumables; others | **6.722,00 €** |
| **CITUPC** | 1.500,00 € | | - € | | **- €** |
| **UU** | 2.600,00 € | | 1.714,00 € | travel costs for TTP and dissemnation | **1.714,00 €** |
| **LUH** | 3.000,00 € | | 3.545,00 € | travel costs for dissemination; consumables | **3.545,00 €** |
| **UNIMORE** | 1.000,00 € | | - € | | **- €** |
| **UCAM** | - € | | - € | | **- €** |
| **UZAGREB** | 4.500,00 € | | 4.551,00 € | travel costs for TTP and dissemination; equipment as per beneficiaries' purchase/depreciation rules; others | **4.551,00 €** |
| **TUDENMARK** | 2.003,00 € | | 317,00 € | travel costs for TTP | **317,00 €** |
| **ULUEBECK** | 1.000,00 € | | 934,00 € | travel costs for dissemination; consumables | **934,00 €** |
| **EPFL** | 1.800,00 € | | - € | | **- €** |
| **TUDRESDEN** | 1.500,00 € | | 682,00 € | travel costs for dissemination | **682,00 €** |
| **UCLUJ** | 3.364,00 € | | - € | | **- €** |
| **EPU** | 2.050,00 € | | 870,00 € | travel costs for TTP; consumables | **870,00 €** |
| **UOSIJEK** | 10.297,00 € | | 6.775,00 € | travel costs for TTP and dissemination; consumables | **6.775,00 €** |

Several partners shifted the entire or part of the budget planned for other direct costs (mainly related to travel costs) to personnel costs in order to use the funding to the technology transfer at best possible. Travel costs occurred within the TTP but not declared to TETRACOM were financed by other own financial sources.

**Allocation of budgets among project partners**

During period 2, the Steering Committee partners agreed upon the following budget allocations:

Allocation from RWTH to UNIPI
UNIPI requested an additional funding of €25,000 to be used for its second TTP 17 and officially proposed the request at the TETRACOM SC face-to-face meeting in Brussels/BE on September 19, 2014. During project run time, RWTH was able to properly fulfill its coordination and management tasks less time-consuming and with fewer efforts than initially planned during the proposal writing phase and hence, at a lower cost than initially requested. Therefore, it was beneficial to reallocate the remaining EC contribution of €24,596 to UNIPI being in line with TETRACOM's key goal to focus on successful technology transfer actions throughout Europe. The reallocation of funds did not affect a change of Annex I.

Allocation from UGENT to RWTH
UGENT initially planned a budget of €25,000 to be used for an own Technology Transfer Project (TTP). This TTP did not take place. Therefore, UGENT released the amount for the use of the TETRACOM open call 3 and officially proposed the shifting to the coordinator and the Steering Committee (SC) at the SC e-meeting on 25.11.15. This re-allocation was accepted by the SC members on 25.11.15 and re-confirmed on 15.12.15 by email.

Allocation from INRIA to RWTH
INRIA initially planned a budget of €4,500 (excluding indirect costs) to be used for the reimbursement of travel costs of the Industry Advisory Board members. This budget was not used. Therefore, INRIA released the amount for the use of the TETRACOM open call 3 and officially proposed the shifting to the coordinator and the Steering Committee (SC) at the SC e-meeting on 25.11.15. This re-allocation was accepted by the SC members on 25.11.15 and re-confirmed on 18.12.15 by email.

**Adjustments of the period 1 financial reporting**

The partners UGENT, TUE, UPC and TUB adjusted their costs declared for period 1 and submitted a corrected adjustment Form C.

**Requests for more EU contribution**

Several partners are requesting more EU contribution than initially planned and stated as per Grant Agreement. Based on the EC's acceptance of the total costs declared and the final payment to the coordinator, RWTH will check the actual remaining payments for each partner and execute the final payments accordingly. The final report on the distribution of the European Union financial contribution will be delivered to the European Commission within 30 days after receipt of the final payment.

As a result, staff efforts and costs incurred have been properly used as foreseen in Annex I and within budget. Thanks to the close communication and information flow between the Coordinator and all partners on a regular basis, minor differences have been identified, and solutions achieving the relevant objectives and even increasing the impact were found. Key aspect of using the EU contribution was in principle related to the success of the technology transfer and the needs when closely working with the

company partner at every time. Of high interest is also the close link between HIPEAC and TETRACOM to further ensure synergies and to use funding efficiently.

**In conclusion, the strong commitment of all TETRACM project partners to the needs of the successful implementation of their technology transfer projects as well as the broad dissemination of the TTP's results thanks to TETRACOM are highly proven. In addition to the significant impact results, the following examples stated during period 2, underpin the excellent way of TETRACOM's pilot concept:**

- **Increased activities for dissemination were executed by all partners (e.g. (open access) papers related to the TTPs were submitted, visits/and or presentations/abstract submissions at conferences, etc.);**
- **A TTP partner (UZAGREB) present at the TETRACOM booth at DATE 2016 started communication with companies in Switzerland and Italy to discuss related post-TTP activities.**
- **some TTP partners were contacted by other companies (even from different countries other than the academic partner is situated (e.g. UZAGREB) to integrate their solution;**
- **A networking event between the academic staff members and the company partners was organized in relation to the TTP, as mentioned in the TTP proposal (IMPERIAL);**
- **the majority of partners pointed out that they will continue the TTP implementation for further improvements even after the TETRACOM project and with own funding resources;**
- **Some partners have started master thesis projects to go beyond the preliminary results of the TTP (e.g. UU).**

## Annex A – 3rd call for TTP proposals


**Technology Transfer in Computing Systems**

# TETRACOM – 3rd Call for TTP Proposals

**Partial Funding for Academia-Industry Technology Transfer Projects in Computing Systems**

**Call deadline: September 15, 2015**

**Total budget in this call: 350,000 EUR**

TETRACOM (Technology Transfer in Computing Systems) is a Coordination Action funded by the European Commission under FP7 to coordinate and support technology transfers from academia to industry.

A funded Technology Transfer Project (TTP) needs to end by July 2016 (so the time span is practically 3-8 months), and the total budget can span from 20k to 200k EUR, of which TETRACOM can pay up to 50% (10k to 100k EUR). TETRACOM funding is only for academic beneficiaries, e.g., universities, publicly funded research centers. The company partner will either co-fund the transfer project at the university or invest its own work – or both. During the review process, TTP proposals with a cash contribution from the company partner will be preferred. The expected average size of the TETRACOM grant will be 25k EUR. All the costs need to be eligible costs as per EU FP7 project rules, e.g., no value added tax included. A public summary of the activity will be published after the TTP.

The applicant organization is the university legal entity. A Participant Identification Code (PIC) in the European Commission database will be needed for including the university as a new beneficiary in the TETRACOM consortium for funding the TTP. To find out or register your organisation's PIC code, please refer to the Participant Portal (http://cordis.europa.eu/fp7/pp-pic_en.html).

Only companies with business activities and/or physical sites in European Union or Associated States are eligible as technology transfer partners. However, the actual collaborating company department does not necessarily have to be located itself in these countries. The research institution and the company are responsible for entering into a bilateral contract on the technology transfer. The partnership to TETRACOM consortium cannot be established before the existence of such a contract has been proven. The academic partner has also to accede to the existing grant agreement and consortium agreement.

The TTP proposals will be evaluated by external experts under a Non-Disclosure Agreement (NDA). The steering committee of TETRACOM will perform the final approval or rejection of the proposals and decide the exact budget assignment for accepted proposals under confidential conditions.

**See the attached instructions and proposal template** for more details. The proposals have to be submitted via the TETRACOM web site no later than on **September 15, 2015**. The funding period after proposal acceptance and subsequent TETRACOM consortium extension is expected to start at earliest on December 1, 2015.

Furher information:
TETRACOM web site: www.tetracom.eu

TETRACOM Coordinator: Prof. Rainer Leupers, RWTH Aachen, Germany, email: leupers@ice.rwth-aachen.de

Other TETRACOM steering committee members:
Koen Bertels (University of Delft)


# Technology Transfer in Computing Systems

Koen de Bosschere (University of Gent)
Albert Cohen (INRIA)
Luca Fanucci (University of Pisa)
Wayne Luk (Imperial College London)
Jari Nurmi (Tampere University of Technology)
Michael O'Boyle (University of Edinburgh).

Technology transfer projects require a certain level of maturity or readiness of the technology for such an action to be successful. A too low TRL (Technology Readiness Level) indicates that there is still a need for research and development activities before going for commercialization.

Here you can find some examples of technology transfer projects already accepted for TETRACOM funding:

| TTP title | Partner |
|---|---|
| BWAMEM : the most advanced genetic sequencing algorithm | TU Delft |
| Nonlinear System Identification with advanced local linear models | University of Ljubljana |
| High Speed Serial Links Signal Integrity Toolsuite (HISSIST) | INFN |
| TaTra | TU Eindhoven |
| Scalable Community Detection on the Cloud (SCDC) | U Politècnica de Catalunya |
| An Innovative Diffused Monitoring of Moisture and Health in Building Structures | U Salento |
| 3DAP-TIME: 3D Acoustic Processing To Inspect Manufactured Electronics | Liverpool John Moores U |
| LTE-IP | TU Kaiserslautern |
| eGPU accelerated HEVC/H.265 video decoder | TU Berlin |
| Verification in the Cloud to Radically Improve Analysis (VICTORIA) | TU Eindhoven |
| Collective Mind for ARM | Ctuning foundation |
| Gesture Detection On-Loading for Next Generation Sensor Subsystems | U Rostock |
| L4Re Predictable Runtime Environment | Uppsala U |
| Mobile platform for real-time sonification of movements for medical rehabilitation | Leibniz U Hannover |
| Image Processing to Detect Hidden Defects in Manufactured Electronics | Liverpool John Moores U |
| Wearable Multifunctional Body Sensor | Institut Jozef Stefan |
| Order-of-magnitude performance boost for a leading semantic engine | U Modena |
| Advanced computational drug discovery technologies using HPC architectures | Fundacion U San Antonio |

# Annex B – 3rd call TTP proposal instructions

## TETRACOM TTP Proposal

### INSTRUCTIONS FOR COMPLETING THE PROPOSAL

**Call deadline: 15/09/2015**

### 1. ADMINISTRATIVE DATA

- **Project title**
  Give the project a descriptive title. An acronym may also prove helpful.

- **Project duration (months) and preferred project start date**
  The project can typically last 3-8 months. Do not give an earlier preferred starting date than December 1, 2015, and the TTP needs to end by July 31, 2016. The review will take approximately 4-6 weeks after the call deadline and the paperwork to include the new partners another 4-6 weeks. The TTP can be part of an already ongoing bilateral collaboration or transfer project. In this case, the start of that underlying bilateral project should not be earlier than 3 months before the TTP starting date.

- **Applied TETRACOM funding to the university (euro)**
  TETRACOM funding is only for academic beneficiaries. The company partner will either co-fund the transfer project at the university or invest its own work – or both. TETRACOM can fund technology transfers with 10k to 100k EUR, but bear in mind that the average size of the grant will be 25k EUR. Overbudgeting may lead to rejecting the proposal. The funding is typically limited to 50% of the total technology transfer budget including the company partner´s contribution.

  Example: University U agrees on a technology transfer with company C for a total value of 150k EUR. C pays 25k EUR in cash to U and allocates own manpower equivalent to 50k EUR. Thus, C provides 50% of the total budget. U can apply for a TETRACOM contribution for the remaining 50%, i.e. any amount between 10k EUR and 75k EUR in this example.

- **Matching company funding (EUR) and type (cash / manpower)**
  The company will co-fund the technology transfer project at the university with real money. Company funding share below 50% has to be well justified in the plan. In case of SMEs, the investment may be partially or completely done by personnel resource allocation within the company. This must be calculated in the budget section, and value of the work certified by a company financial officer before the TTP start. By default, cash (instead of pure manpower) contributions by the company partner are preferred.

- **Applicant organization**
  The applicant organization is the university legal entity. The applicant must be registered in the EC's data base with a Participant Identification Code (PIC). The PIC will be needed to include the university as a new partner in the TETRACOM consortium for funding. To find out or register your organisation in the EC's data base please refer to the Participant Portal (http://cordis.europa.eu/fp7/pp-pic_en.html). If the applicant does not have a PIC code yet, the registration process should be started as soon as possible as the process may take some time..

1

"University" here means a university, other publicly funded higher education institution, or publicly funded research organization.

- **Contact (Scientist in charge at the university)**
  The person responsible for the technology transfer at the university (scientist in charge) and her/his contact information.

- **Technology transfer company partner**
  The name of the company to which the technology is to be transferred and who is co-funding this activity. "Company" here means an entity that is privately funded. In particular, largely or fully publicly funded research organizations are not eligible as company partners.

- **Company partner legal entity established in (city, country)**
  The city and country of the company legal entity. Only companies with business activities and/or physical sites in European Union or Associated States are eligible. However, the actual collaborating company department does not necessarily have to be located itself in these countries.

- **Bilateral contract on technology transfer between the university and company**
  The university and the company are responsible for entering into a bilateral contract on the technology transfer. The partnership to TETRACOM consortium cannot be established before the existence of such a contract has been proven.

  When joining the consortium and starting the actual TTP, the university partner has also to accede to the existing grant agreement and consortium agreement.

- **TETRACOM may announce the technology transfer**
  After completing the TTP, a public abstract (Deliverable) has to be drafted and delivered to the European Commission. This abstract will also be published at the end of the funded technology transfer in any case. If permission is given, TETRACOM may publish the title and partners of the TTP already when the funding has been approved.

  In addition, the university partner has to do a financial report and return an impact evaluation questionnaire to the TETRACOM organizers.

## 2. TECHNOLOGY TRANSFER PLAN

### 2.1 Expected impact

Describe the expected added value from the technology transfer. Both academic impacts such as probability of publications and incorporation of start-ups, and economic impacts such as the number of users of the technology inside the company, quality improvement of products and processes (e.g. efficiency, performance, power consumption), potential for subsequent sustainable partnership, potential for enabling new products, expected impact on the business and profits of the company.

Maximum length in proposal: 1 page

Score: 1-5
Threshold: 3
Weight: 2

### 2.2 Transfer concept, objectives and work plan

Describe the background, such as the possible patent applications or granted patents on the technology and the maturity of the technology, the type of actions, e.g., exclusive purchase, non-exclusive licensing of (what?) rights, transfer of knowledge, development of prototypes, proof-of-concept, transfer of software copyrights, etc.

**TTPs should revolve around transferring EXISTING Intellectual Property (IP) into industry rather than developing new IP during the project.**

Identify the main objectives and lay out a work plan for achieving them. Specify what is done by the university and what by the company partner.

Please assess the readiness level of the technology to be transferred according to the following definitions and provide a short justification for your assessment

TRL 1 Basic principles observed and reported: Transition from scientific research to applied research. Essential characteristics and behaviors of systems and architectures. Descriptivetools are mathematical formulations or algorithms.

TRL 2 Technology concept and/or application formulated: Applied research. Theory and scientific principles are focused on specific application area to define the concept. Characteristics of the application are described. Analytical tools are developed for simulation or analysis of the application.

TRL 3 Analytical and experimental critical function and/or characteristic proof-of-concept: Proof of concept validation. Active Research and Development (R&D) is initiated with analytical and laboratory studies. Demonstration of technical feasibility using breadboard or brassboard implementations that are exercised with representative data.

TRL 4 Component/subsystem validation in laboratory environment: Standalone prototyping implementation and test. Integration of technology elements. Experiments with full-scale problems or data sets.

TRL 5 System/subsystem/component validation in relevant environment: Thorough testing of prototyping in representative environment. Basic technology elements integrated with reasonably realistic supporting elements. Prototyping implementations conform to target environment and interfaces.

TRL 6 System/subsystem model or prototyping demonstration in a relevant end-to-end environment: Prototyping implementations on full-scale realistic problems. Partially integrated with existing systems. Limited documentation available. Engineering feasibility fully demonstrated in actual system application.

TRL 7 System prototyping demonstration in an operational environment: System is at or near scale of the operational system, with most functions available for demonstration and test. Well integrated with collateral and ancillary systems. Limited documentation available.

TRL 8 Actual system completed and "mission qualified" through test and demonstration in an operational environment: End of system development. Fully integrated with operational hardware and software systems. Most user documentation, training documentation, and maintenance documentation completed. All functionality tested in simulated and operational scenarios. Verification and Validation (V&V) completed.

TRL 9 Actual system "mission proven" through successful mission operations: Fully integrated with operational hardware/software systems. Actual system has been thoroughly demonstrated and tested in its operational environment. All documentation completed. Successful operational experience. Sustaining engineering support in place.

Maximum length in proposal: 1 page
Score: 1-5
Threshold: 3
Weight: 1

### 2.3 Resources and budget

Human resources to be allocated to carry out the work. Possible other resources needed and their availability. Justification of other direct costs than salaries. Contributions of the company partner financially and/or as "in kind" efforts.
Calculate the project costs at the university, assuming:

- Salary costs incl. social overheads
- necessary travel
- purchase of materials and consumables, and
- 7% general overhead on the above costs.

All the costs need to be eligible costs as per EU FP7 project rules, e.g., no value added tax included.

Maximum length in proposal: 0.5 pages
Score: 1-5
Threshold: 1
Weight: 1

### 2.4 Partner profiles

Capabilities of the partners to carry out the transfer, their track record on previous technology transfer activities or other collaboration, and the match between the technology provided and the company profile.

Maximum length in proposal: 0.5 pages
Score: 1-5
Threshold: 3
Weight: 1

## TTP proposal selection and granting rules:

The TETRACOM Steering Committee (SC) will check all incoming proposals for eligibility. The eligible proposals will be evaluated by a sufficient number of independent experts, who will be appointed by the SC for each TTP call, By default, each proposal shall be reviewed by two independent experts, normally involving one academic and one industrial expert. The independent experts will, after signing an NDA, evaluate the proposals remotely w.r.t. the above criteria and will report their results to the SC. The SC will prepare a ranking list of proposals according to their total weighted average scores. Proposals with a sub-threshold score in at least one criterion after averaging the individual reviewer scores will be excluded.

In case of ties, the following secondary ordering criteria shall apply:

1. Higher average score on "Impact"
2. Higher average score on "Soundness of concept" (concept, objectives, work plan)
3. TTP involves a new EU member state
4. TTP involves an SME

Finally, the SC will decide on the funding level for each proposal in top-down fashion according to the ranking list. proposals will be assigned budgets and will be accepted until the total call budget is exhausted. The budget assignment by the SC will be guided by the evaluation results but can be adapted according to necessities.

## Annex C – 3rd call TTP proposal form

# TETRACOM TTP Proposal

Please consult the instructions before completing this proposal form

**Call deadline: 15/09/2015**

### 1. ADMINISTRATIVE DATA

- **Project title**

- **Project duration (months) and preferred project start date**

- **Requested TETRACOM funding to the university beneficiary (EUR)**

- **Matching industry partner funding (EUR) and type (cash / manpower)**

- **Applicant organization (university beneficiary)**

| | |
|---|---|
| Organization name | |
| Department | |
| Address | |
| Country | |
| VAT nr. | |
| PIC code | |

- **Contact person (Scientist in charge at the university)**

| | |
|---|---|
| Last name, first name | |
| Telephone | |
| E-mail | |

- **Technology transfer company partner name**

- **Company partner legal entity established in (city, country)**

- **Bilateral contract on technology transfer between the university and company**

☐ Has been signed (date):
☐ Will be signed approx. by (date):

1

- **TETRACOM may announce the technology transfer**

| |
|---|
| ☐ Once the funding has been approved<br>☐ At the end of the funding period when the compulsory public abstract is due |

## 2. TECHNOLOGY TRANSFER PLAN

### 2.1 Expected impact

| |
|---|
| (max. 1 p.) |

### 2.2 Transfer concept, objectives and work plan

| |
|---|
| (max. 1 p.) |
| Please assess the readiness level of the technology to be transferred, also providing a short justification of your assessment:<br>1 ☐; 2 ☐; 3☐,4 ☐; 5 ☐; 6☐; 7 ☐; 8 ☐; 9 ☐ |

### 2.3 Resources and budget

| |
|---|
| (max. ½ p.) |

### 2.4 Partner profiles

| |
|---|
| (max. ½ p.) |

# Annex D – 3rd TTP call submitted proposals overview

| TETRACOM TTP THIRD CALL | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PROPOSALS** | | | | | | | | | | | | | |
| **ID** | **Project Name** | **Duration (months)** | **Coordinator** | **Contact** | **Research Center** | **Country** | **Company** | **Country** | **Requested Funding (€)** | **Matching funding (€)** | **Type** | **Date of submission** | **Submitted by** |
| 1 | Contactless smart MEMS-based piezo-resistive sensor (COSMOS) | 8 | Marin Marinov | marin.marinov@epu.bg | European Polytechnical University (EPU) | Bulgaria | AMG-Technology Ltd. | Bulgaria | 13.000,00 | 13.000,00 | Manpower | 08.09.2015 11:41 | Coordinator |
| 2 | FER Home Health Smart TV Integration in eHealth clients (FHTV) | 8 | Mario Kovac | mario.kovac@fer.hr | Faculty of electrical engineering and computing, University of Zagreb | Croatia | MCS Grupa d.o.o. | Croatia | 29.194,00 | 29.327,00 | Manpower | 11.09.2015 16:02 | Coordinator |
| 3 | Recovering UNambiguous Analysable MOdels from Code generators (RUN AMOC) | 8 | Tim Willemse | T.A.C.Willemse@tue.nl | Technische Universiteit Eindhoven | Netherlands | Cordis Automa7on B.V. | Netherlands | 49.050,00 | 50.950,00 | Manpower | 14.09.2015 14:25 | Coordinator |
| 4 | Sub 1 GHz ISA100 technology for low cost and low power consumption embedded systems | 6 | Silviu Folea | silviu.folea@aut.utcluj.ro | Technical University of Cluj-Napoca | Romania | Control Data Systems SRL | Romania | 25.000,00 | 5.000,00 | Cash | 14.09.2015 16:37 | Coordinator |
| 5 | LibARITH - A Highly Optimized Arithmetic Software Library and Hardware Co-processor IP for Fixed-Point VLIW-SIMD Processor Architectures | 8 | Guillermo Paya-Vaya | guipava@ims.uni-hannover.de | Gottfried Wilhelm Leibniz Universitaet Hannover | Germany | videan-s GmbH | Germany | 25.000,00 | 40.000,00 | Manpower | 17.09.2015 11:24 | Coordinator |
| 6 | HaVaSHet: Handling Variability and Scalability in the presence of Heterogeneity | 6 | Jeronimo Castrillon | jeronimo.castrillon@tu-dresden.de | Technische Universität (TU) Dresden | Germany | Silexica Software Solutions GmbH | Germany | 29.500,00 | 29.500,00 | Manpower | 24.09.2015 15:56 | Coordinator |
| 7 | HELOW-HEVC: an HEterogeneous LOW-cost and low-power HEVC complete encoder | 8 | Guillermo Botella Juan | gbotella@ucm.es | Universidad Complutense de Madrid | Spain | PRODYS | Spain | 49.000,00 | 49.000,00 | Manpower | 30.09.2015 21:10 | Coordinator |
| 8 | Neutral atom measuring instrument (NAMI) for plasma characterization | 8 | Rok Zaplotnik | rok.zaplotnik@ijs.si | Jozef Stefan Institute | Slovenia | OPTACORE d.o.o. Optična vlakna | Slovenia | 25.000,00 | 25.000,00 | Cash | 28.09.2015 11:19 | Coordinator |
| 9 | SSDExplorer: a SSD simulation framework with machine learning capabilities | 6 | Cristian Zambelli | cristian.zambelli@unife.it | Università degli Studi di Ferrara | Italy | PMC-Sierra Italy | Italy | 28.120,00 | 30.000,00 | Cash | 28.09.2015 11:57 | Coordinator |
| 10 | SLIDE: Simulation Infrastructure for Data cEnters | 7 | Marina Zapater | marina.zapater@ucm.es | Complutense University of Madrid | Spain | Ionldea Inc. | Fairfax, VI, USA | 37.450,00 | 44.500,00 | Manpower | 29.09.2015 00:00 | Coordinator |
| 11 | "Opus Digitale": 3D laser scanning and printing of Byzantine mosaics (3DBM) | 6 | Donatella Biagi Maino | equinox5@libero.it | Alma Mater Studiorum – Universita di Bologna | Italy | Eliofossolo s.r.l. | Italy | 24.931,00 | 26.100,00 | Manpower | 29.09.2015 01:21 | Coordinator |
| 12 | CK/CLsmith: An Automated Testing Framework for Many-Core Vendor Tools | 4.5 | Alastair Donaldson | alastair.donaldson@imperial.ac.uk | Imperial College London | UK | dividiti | UK | 30.132,00 | 32.500,00 | Cash | 29.09.2015 01:36 | Coordinator |
| 13 | Personalized Nutrition Control Aid for Insulin Patch Pump - PerNuCAP | 8 | Franc Novak | franc.novak@ijs.si | Institut Jožef Stefan | Slovenia | IPD Med | Slovenia | 25.000,00 | 10.000,00 | Cash | 29.09.2015 17:01 | Coordinator |
| 14 | ASBIP (Accurate Smart Bluetooth Indoor Positioning system) | 8 | Fernando Cerdan | fernando.cerdan@upct.es | Technical University of Cartagena | Spain | Ingeniatic Desarrollo & Isotader Group | Spain | 54.250,00 | 55.000,00 | Manpower | 29.09.2015 22:53 | Coordinator |
| 15 | BASS: Building Answers on heterogeneous Search data Sources | 8 | Josep Luis Larriba Pey | larri@ac.upc.edu | Universitat Politècnica de Catalunya | Spain | Sparsity Technologies | Spain | 32.055,00 | 41.000,00 | Manpower | 30.09.2015 06:33 | Coordinator |
| 16 | AUTOMAP: Tool for automatic mapping of AUTOSAR runnables to multicore automotive architectures | 6 | Paul Pop | paupo@dtu.dk | Technical University of Denmark | Denmark | Volvo Technology AB | Sweden | 20.000,00 | 25.000,00 | Cash | 30.09.2015 10:08 | Coordinator |
| 17 | Systems and Monitoring Apparata based on Reflectometric Techniques for Agricultural aPPlications (SMART_APP) | 6 | Andrea Cataldo | andrea.cataldo@unisalento.it | University of Salento | Italy | Sysman ProgeA & Servizi S.R.L. | Italy | 35.000,00 | 35.000,00 | Manpower | 30.09.2015 10:31 | Coordinator |
| 18 | Accelerator Technologies for Graph Parallel Applications | 12 | Ozcan Ozturk | ozturk@cs.bilkent.edu.tr | Bilkent University | Turkey | Intel Corporation | Santa Clara, CA, USA | 30.000,00 | 58.000,00 | Cash | 30.09.2015 12:08 | Coordinator |
| 19 | High efficiency heat sinks for optical image pre-processors | 6 | Susana Cardoso de Freitas | scardoso@inesc-mn.pt | Instituto de Engenharia de Sistemas e Computadores Microsistemas e Nanotecnologias | Portugal | PICadvanced, Lda | Portugal | 24.600,00 | 24.800,00 | Manpower | 30.09.2015 12:09 | Coordinator |
| 20 | TEchnology Transfer of RFID for Infrastructure Sensing (TETRIS) | 9 | Luca Catarinucci | luca.catarinucci@unisalento.it | University of Salento | Italy | STMicroelectronics | Italy | 36.700,00 | 36.700,00 | Manpower | 30.09.2015 12:58 | Coordinator |
| 21 | Dynamic Thermal Rating of overhead power lines in icing conditions (DTRi) | 7 | Gregor Kosec | gkosec@ijs.si | Jozef Stefan Institute | Slovenia | ELES, Ltd., Electricity Transmission System Operator | Slovenia | 30.479,00 | 25.000,00 | Cash | 30.09.2015 15:16 | Coordinator |
| 22 | Non-contact, non-intrusive machine vision-based in-vehicle distraction sensor (mDrive) | 6 | Janez Pers | janez.pers@fe.uni-lj.si | University of Ljubljana | Slovenia | TiBoPo d.o.o. | Slovenia | 11.331,00 | 5.000,00 | Cash | 30.09.2015 15:20 | Coordinator |
| 23 | SEcube™: Advanced, Open Source Security Platform in a Single Chip | 8 | Paolo Prinetto | paolo.prinetto@polito.it | Consorzio Interuniversitario Nazionale per l'Informatica (CINI) (Research node Turin) | Italy | Blu5 Labs Ltd | Malta | 25.000,00 | 15.000,00 | Cash | 30.09.2015 15:36 | Coordinator |
| 24 | Fast CCA - Fast Connected Component Analysis (CCA) for flexible high-speed image processing | 6 | Norbert Wehn | wehn@eit.uni-kl.de | University of Kaiserslautern | Germany | Wipotec GmbH | Germany | 27.930,00 | 32.000,00 | Manpower | 30.09.2015 15:34 | Coordinator |
| 25 | VITAL: Virtual-platform Integration Through Abstraction of Languages | 6 | Franco Fummi | franco.fummi@univr.it | Università degli Studi di Verona | Italy | EDALab s.r.l. | Italy | 25.000,00 | 25.000,00 | Cash | 30.09.2015 16:43 | Coordinator |
| 26 | Miniaturized Optical Sensors for detection of residual AntibioticS in milk. Acronym: MOSAIC | 6 | Giovanna Brusatin | giovanna.brusatin@unipd.it | INSTM - University of Padova | Italy | Optop S.r.l. | Italy | 25.000,00 | 25.000,00 | Manpower | 30.09.2015 17:34 | Coordinator |
| 27 | Mapping communication middleware functions to multicore to speed distributed embedded systems | 8 | Marisol García Valls | mvalls@it.uc3m.es | Universidad Carlos III de Madrid | Spain | Indra Sistemas | Spain | 25.680,00 | 33.500,00 | Cash | 30.09.2015 19:57 | Coordinator |
| 28 | FPGA MultiProcessor Architectures for Reconfigurable, Reliable, Fault Tolerant Vessel Assisted Maneuvering Systems – MPARR-VMA | 6 | Vincenzo Bonaiuto | vincenzo.bonaiuto@uniroma2.it | University of Rome Tor Vergata | Italy | XENTA Systems Srl | Italy | 27.000,00 | 27.000,00 | Manpower | 30.09.2015 21:52 | Coordinator |
| 29 | Cloud-based Monitoring and Analysis for Lithium-Ion Electrical Energy Storage Systems (cMALEESS) | 6 | Martin Leucker | leucker@isp.uni-luebeck.de | University of Lübeck | Germany | LION Smart GmbH | Germany | 29.750,00 | 34.700,00 | Manpower | 30.09.2015 22:09 | Coordinator |
| 30 | Graphic Web based IDE for Cyber Physical Systems | 10 | Antonio Rizzo | antonio.rizzo@unisi.it | University of Siena | Italy | AIDALB S.r.l. | Italy | 32.000,00 | 32.000,00 | Cash | 30.09.2015 22:37 | Coordinator |
| 31 | CVS_PROTO_CER_QC- Computer Vision Station Prototype for Biscuit Tiles Quality Control | 10 | Zeljko Hocenski | zeljko.hocenski@eCos.hr | University Josip Juraj Strossmayer in Osijek | Croatia | Keramika Modus d.o.o. | Croatia | 20.000,00 | 20.000,00 | Manpower | 30.09.2015 23:54 | Coordinator |
| 32 | PWRtrace: Integrated Solution for Non-Intrusive Power Metering and Load Decomposition | 6 | Mihael Mohorcic | miha.mohorcic@ijs.si | Jozef Stefan Institute | Slovenia | ComSensus | Slovenia | 30.105,00 | 25.000,00 | Cash | 30.09.2015 23:55 | Coordinator |
| 33 | Lab-on-Skin with Zero-Power Interface | 8 | Adrian Ionescu | adrian.ionescu@epfl.ch | EPFL | Switzerland | Xsensio | Switzerland | 40.000,00 | 45.000,00 | Cash | 30.09.2015 23:59 | Coordinator |

# TETRACOM TTP Impact Questionnaire

*Every TETRACOM-funded Technology Transfer Project (TTP) is requested to fill a short impact evaluation questionnaire after project conclusion.*
*The questionnaire is meant to be filled by the academic partner. Still, it refers to bi-lateral benefits of the TTP, and input from the industry partner will be highly valuable whenever appropriate.* Your contribution is essential to the TETRACOM project management and reporting.
Your experience is highly valuable to shape future European calls in the area of technology transfer and innovation.Not all impact criteria may be applicable to your TTP experience; please do try to fill as many categories as possible, and to provide both quantitative and text input whenever it is meaningful.

Note: these criteria are loosely based on the E.C. Expert Group report "Metrics for Knowledge Transfer from Public Research Organisations" in Europe (*)

(*) http://ec.europa.eu/invest-in-research/pdf/download_en/knowledge_transfer_web.pdf

| IMPACT CRITERIA | DESCRIPTION | OUTCOME Quantitative **(if applicable)** | Textual(details, comments) | SUPPORTING MATERIAL(if applicable) |
|---|---|---|---|---|
| Dissemination and exploitation | | | | |
| **(01) Scientific journals and conferences** | Academic journals and international conferences with formal proceedings | | | |
| **(02) Other scientific and technical communications** | Workshop presentations, invited talks, seminars, posters | | | |
| **(03) Dissemination in professional publications and venues** | Participation to trade shows, press communication | | | |
| **(04) Contributions to standards** | Planned or effective, including participation to standardization committees | | | |
| **(05) Exploitation as/with free and open source software (FOSS)** | Integration into FOSS platforms, contributions to FOSS platforms, contribution of FOSS components | | | |
| **(06) Patents** | Filing, pending, enforced, extension, licensees | | | |
| Training | | | | |
| **(07) Education and training** | Tutorials, course material, education, outreach to the public, professional training programs | | | |
| **(08) Knowledge adoption and users inside the partner company** | Nature of the knowledge being adopted, and type and total number of users of the transferred technology | | | |
| Technology adoption | | | | |
| **(09) Quality improvement of products and processes** | E.g., productivity, performance, cost, etc., and impact on the TRL of these systems and products (if applicable, e.g., 4→6, or 5→7) | | | |
| **(10) Exploitation of technology in existing products of the partner company** | Technology and knowledge exploited within existing products of the company | | | |
| **(11) Adoption of knowledge and technology in internal processes** | Technology and knowledge exploited for internal purposes of the company, and impact on the TRL of the internal tools (if applicable) | | | |
| Direct business impact | | | | |
| **(12) Anticipated sales** | Measurable and expected impact on the commercial activity of the company (if applicable) | | | |
| **(13) Investment attractivity** | Effective and expected impact on the company's ability to attract new Investments and investors | | | |
| Longer term impact | | | | |
| **(14) Potential for enabling new products** | Beyond the improvement of existing products and processes | | | |
| **(15) Impact on the company's human resources** | Students and engineers hired by the company as a byproduct of the technology transfer, and effective or planned job creations | | | |
| **(16) Users in third parties** | Type and total number, outside the company and academic partner | | | |
| **(17) Potential for enabling subsequent TTPs** | Exploitation of the results of the partners through future R&D or technology transfer projects | | | |
| **(18) Potential for subsequent sustainable partnership** | E.g., new positions offered, new research challenges, new innovation opportunities, exchange of personnel, joint activities | | | |
| **(19) Potential for startup company foundation** | Does the transferred technology have sufficient potential for a separate startup company in the long term? (Only in exceptional cases.) | | | |
| Impact on the academic group | | | | |
| **(20) Impact of the TTP on the maturity level of the academic group's prototypes** | Self-assessment of the TRL of the tools prior and after the TTP, of the impact and opportunities in terms of follow-up research and development | | | |
| **(21) Impact of the TTP on the visibility and strategy of the academic group** | Post-TTP successes of the academic group in terms of research activities and results, funding applications, and transfer successes | | | |
| Tracing the impact of research funding from basic research to TTPs | | | | |
| **(22) Relation with past research, development or technology transfer project** **) see separate email for clarification attached* | ***To measure the impact of* pastfunding and trace the maturation of technology, please describe the relation with previous grants related to the completed TTP. See the associated message for more detailsand provide this information in a separate document** | | | |
| Lessons learned | | | | |
| **(23) Added value of the TT support provided by TETRACOM** | Financial incentive for the academic group? More economical for the company? enabling TT that would not have taken place otherwise? Match-making? | | Please involve the partner company in collecting this data (if possible) | |
| **(24) Recommendations for future TT support actions** | Recommendations on financial support, human resource aspects, communication, match-making, portfolio analyses, proposal selection, synergies w/ other schemes… | | Please involve the partner company in collecting this data (if possible) | |

Dear TETRACOM TTP coordinators


Within the framework of TETRACOM we would need **your help to secure more funding for future technology transfer initiatives.** Your response may also help the DG CONNECT at the EC to report **on the long-term impact** of its research grants.

We would like to collect information about the *past* work that led to your successful technology transfer. This corresponds to **Question 22 in the impact questionnaire**.

Please provide this information as a **text document**, together with the filled impact questionnaire.

The listed information should contain the name, reference and approximate date of your key scientific results (papers) and research grants (European or national) that led to your TTP proposal. We would like to collect this information in chronological order as follows:

- Grant. name, funding agency/scheme, reference number (if possible), start year, URL (if available).
- Paper. reference title, authors, venue, year, URL or DOI (if possible).
- Software or IP release. name, copyright holder, license if open source, year, URL (if relevant).

For our purpose, the information on grants is the most important; there is no need to list every paper and software/IP (please see an example below).

In the short term, this information is highly valuable to secure further TTP funding, and in the long term, it will help tracing the path from research to innovation.

Thank you very much for your cooperation.

Kind regards
Eva
on behalf of Albert Cohen and Rainer Leupers

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EXAMPLE of an ongoing TTP (OpenMP for a manycore architecture)

- Grant. ACOTES, FP6, IST-034869, 2006.
- Paper. A. Pop, S. Pop, and J. Sjödin. Automatic streamization in GCC. In Proc. of the 2009 GCC Developers' Summit, 2009.
- Paper. A. Pop and A. Cohen. A stream-computing extension to OpenMP. In Int. Workshop on OpenMP (IWOMP), Tsukuba, Japan, 2010.
- Grant. TERAFLUX, FP7, FET-249013, 2010. http://www.teraflux.eu
- Paper. A. Pop and A. Cohen. OpenStream: Expressiveness and data-flow compilation of OpenMP streaming programs. ACM Trans. on Architecture and Code Optimization (TACO), 2013.

- Software. OpenStream, INRIA, GPLv3+, 2013. http://www.openstream.info
- Paper. A. Drebes, A. Pop, K. Heydemann, A. Cohen, and N. Drach-Temam. Topology-aware and dependence-aware scheduling and memory allocation for task-parallel languages. ACM Trans. on Architecture and Code Optimization (TACO), 2014.

## Annex F - Project Schedule Overview

The table below summarizes all major project deliverables, milestones, and events. No major deviations from the original work plan specified in the DoW were required.

| item | month | responsible |
|---|---|---|
| project start | 1 | RWTH |
| kickoff meeting | 1 | all |
| SC physical meeting 1 | 1 | RWTH |
| D2.5: Kickoff press release | 3 | UGENT |
| TETRACOM WWW online | 3 | UPISA |
| MS1: Call for TTPs 1 | 6 | TUT |
| TT workshop 1 | 6 | TUD |
| Newsletter 1 | 6 | UGENT |
| D4.1: Periodic project report 1 | 8 | RWTH |
| D2.1: TTI report 1 | 9 | UGENT |
| TTP granting call 1 | 9 | UEDIN |
| Review 1 | 9 | all |
| D3.1-x: Initial TTP abstracts | 12 | all |
| MS4: IAB meeting 1 | 12 | INRIA |
| TT workshop 2 | 12 | TUD |
| Newsletter 2 | 12 | UGENT |
| SC physical meeting 2 | 13 | RWTH |
| MS2: Call for TTPs 2 | 15 | TUT |
| D1.1: TTP calls statistics 1 | 18 | UEDIN |
| D2.2: TTI report 2 | 18 | UGENT |
| D4.2: Periodic project report 2 | 18 | RWTH |
| TTP granting call 2 | 18 | UEDIN |
| TT workshop 3 | 18 | TUD |
| Newsletter 3 | 18 | UGENT |
| D1.3: TTP impact report 1 | 18 | INRIA |
| Review 2 | 21 | all |
| D2.4: TETRACOM main workshop | 24 | UGENT |
| MS3: Call for TTPs 3 | 24 | TUT |
| MS5: IAB meeting 2 | 24 | INRIA |
| TT workshop 4 | 24 | TUD |
| Newsletter 4 | 24 | UGENT |
| SC physical meeting 3 | 25 | RWTH |
| TTP granting call 3 | 27 | UEDIN |
| TT workshop 5 | 30 | TUD |
| Newsletter 5 | 30 | UGENT |
| D1.2: TTP calls statistics 2 | 36 | UEDIN |
| D1.4: TTP impact report 2 | 36 | INRIA |
| D1.5: TETRACOM white paper | 36 | INRIA |
| D2.3: TTI report 3 | 36 | UGENT |
| D2.6: Final press release | 36 | UGENT |
| D3.x-3.y: New TTP abstracts | 36 | new partners |
| D4.3: Periodic project report 3 | 36 | RWTH |
| MS6: IAB meeting 3 | 36 | INRIA |
| TT workshop 6 | 36 | TUD |
| Newsletter 6 | 36 | UGENT |
| Review 3 | 38 | all |