

# Open Innovations Framework for Partnering Industrial and Academic R&D: Finnish-Russian University Cooperation in Telecommunications

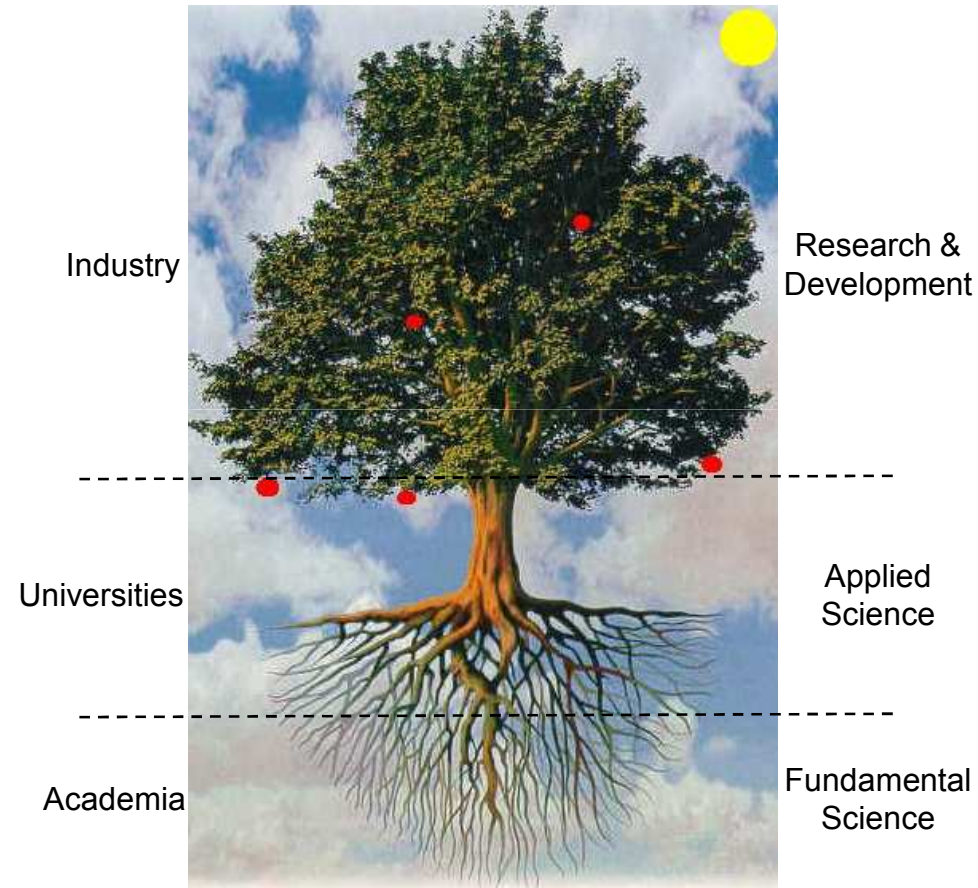
fruct





# What is the meaning of FRUCT name?

1. Simple explanation – is an acronym for Finnish-Russian University Cooperation in Telecommunications (FRUCT)
2. Practical KNOW-HOWs are the fruits (Lat.: fructus, Rus.: fruct) of the knowledge-tree





# Background and Motivation (1/2)

- Innovation cycle getting shorter
  - The results must be adopted faster to practice
- Social responsibility is a key priority for Nokia and NSN
  - Support of education and science is a natural way to show it
- Russian science has a strong innovation potential
  - But visibility of the existing teams has to be improved
- Traditionally strong American R&D and emerging Asia create strong competitiveness challenge for European and Russian R&D



## Background and Motivation (2/2)

- The solution could be in joining forces of Russian and European leading academic and industrial R&D groups
- We have strong world-wide academic network and believe that stronger involvement of Russian experts would be mutually beneficial
- Before getting into serious cooperation it would help to the partners to get know each other via some small joint activity with low level of mutual obligations
  - The corresponding playground framework would help it

# Solution in a Nutshell: Open Innovation Framework FRUCT



- Community of students, academic and industrial experts
- Identify niches of world-class R&D and incubator of competences
- Chance for students to realize scientific and R&D ambitions
- Develop strategic partnership between industry and universities
- Support of education and science by socially responsible business
- Promote idea of open communications & Europe without borders



## Our Approach (1/2)

- **Help bridging Finnish and Russian academic worlds**
- Increase visibility of the involved research teams and set more direct personal contacts between experts
  - Supporting joint R&D projects and publishing of the best student works at the world top conferences
- Encourage exchange of competences and best practices in education and R&D
- Establish more direct contacts between people from universities and industry
- Promote telecom and mobile device oriented research and technologies



## Our Approach (2/2)

- Give students a framework to realize R&D ambitions
- Involve students in research projects oriented to the industrial needs
  - Provide students with the advanced technology trainings
  - Find best university & industry supervisors for the projects
  - Help identify perspective niches for new research projects
  - Inform about existing mechanisms of supporting R&D work
- **Program is an incubator of new competences**



# FRUCT Principles (1/2)

- Despite a fact that FRUCT focus regions are Russia and Finland, participants from other regions are welcome
- Student-driven small technology exploration projects allow to lower cooperation entering threshold and help to exchange knowledge and develop new competences
- Regular seminars are important educational events, the place to present R&D work, face-to-face meet colleagues, attract new partners and discuss new project ideas





## FRUCT Principles (2/2)

- When possible we preserve FRUCT informal and open
  - No formal agreements and membership fees
  - Interested university team should define activities in which it wants to participate and make a request for the membership
- FRUCT defines two levels of membership
  - **Full-members** – run R&D projects and other competence building activities; they are seminars organizers and key contributors; full-members are entitled to all FRUCT benefits
  - **Observers** – could participate in the seminars and projects; follow program's progress; partly entitled to FRUCT benefits



# Membership

- **FRUCT membership is invitation based**

- Any university and company can apply for the FRUCT observer status
- Active observers can be promoted to full-members and the full-members passive for over ½ year return to observer status

- **Industrial Full-members**

- [Nokia Research Center & Universities Cooperation Program in Russia](#), contact person: [Sergey Balandin](#)
- [Nokia Siemens Networks](#), contact person: [Alexander Sayenko](#), [Roman Katiti](#)
- [Symbian Foundation](#), contact person: [Lawrence Simpson](#)

- **Full-member universities**

- [St. Petersburg State University of Airspace Instrumentation \(SUAI\)](#), contact person: [Alexey Koren](#)
- [University of Turku \(TU\)](#), contact person: [Alexey Dudkov](#)
- [Helsinki University of Technology \(HUT\)](#), contact person: [Olav Tirkkonen](#)
- [Petrozavodsk State University \(PetrSU\)](#), contact person: [Anton Shabaev](#)
- [St. Petersburg State Electrotechnical University "LETI"](#), contact person: [Kirill Krinkin](#)
- [Tampere University of Technology \(TUT\)](#), contact person: [Yevgeni Koucheryavy](#)
- [N.I. Lobachevsky State University of Nizhni Novgorod \(NNSU\)](#), contact person: [Diana Ilina](#), [Svetlana Surova](#)
- [Moscow Technical University of Communications and Informatics \(MTUCI\)](#), contact person: [Vladimir Deart](#)
- [St. Petersburg State University \(SPbSU\)](#), contact person: [Katherina Chizhova](#)
- [Bonch-Bruевич St. Petersburg State University of Telecommunications](#), contact person: [Gennady Yanovsky](#)
- [University of Jyväskylä](#), contact person: [Vitaliy Tykhomyrov](#)
- [Technical University of Denmark, Fotonik](#), contact person: [Søren Forchhammer](#), [Ann Ukhanova](#)

- **Observer universities**

- [St. Petersburg Institute for Informatics and Automation of Russian Academy of Sciences](#), contact person: [Nikolay Shilov](#), [Alexey Kashevnik](#)
- [Southern Federal University / Taganrog State University Of Radioengineering](#), contact person: [Vladimir Kureychik](#)
- [Siberian State University of Telecommunication and Computer Science](#), contact person: [Boris Ryabko](#)
- [Lappeenranta University of Technology \(LUT\)](#), contact person: [Pekka Jäppinen](#)
- [Novosibirsk State University](#), contact person: [Igor Skopin](#)
- [Demidov Yaroslavl State University](#), contact person: [Dmitry Chaly](#)





# Organization of the Project Work (1/2)

- Any representative of the full-member organization can propose the new project at any time
- Project can be initiated by professor, industry expert or student:
  - If professor initiates a project → he becomes supervisor of the team
  - If the proposal comes from industry expert → he becomes a tutor
  - Also member students with new project ideas could ask FRUCT for evaluation of the proposal and to help find a supervisor/tutor
- The project teams can ask FRUCT board for professional advices, results review and other types of mentor help and support, plus different types of donations (books, devices, etc) are possible



## Organization of the Project Work (2/2)

- The expected project deliverable is a paper, but depending on the scope some other deliverables are also possible and appreciated
- Yearly we organize two educational & info sharing seminars
  - Traditionally, spring seminars held in Russia, autumn in Finland
  - Seminars are educational and scientific events, where a number of top experts give lectures around program's subject
  - Also the seminar is a place to present project progress and results
- Based on seminar presentations FRUCT board might recommend some papers to publication at world top conferences and Nokia allocates several **travel grants**
- More information about FRUCT structure and work principles available at [www.fruct.org](http://www.fruct.org)



# Benefits for Member Organizations (1/2)

- FRUCT provides framework to find right partner for cooperation, building trust and setting direct contacts between experts
- FRUCT helps to universities to identify R&D niches that they can take for cooperation with industrial partner
- FRUCT helps university to incubate new competences demanded by the industry
- Partnering with industry provides association with strong brand, challenging and interesting research tasks and additional resources, which attracts best students, keeps them at the departments and so helps to solve resourcing problem



## Benefits for Member Organizations (2/2)

- Industry is interested in long-term, high risks research run by the universities
  - Companies would benefit to get closer to the edge of science
  - Early-phase industrial feedback is in mutual benefit as it helps directing studies and enables right tuning and presenting of the results
- Higher openness between academic and industrial research, joint actions for getting **stronger visibility** and making joint publications are in the mutual benefit



## Benefits for Students (1/2)

- FRUCT projects are supported, e.g. by donations of books, devices, scientific databases and library access, etc.
- FRUCT students can ask for **travel grant** (full/part covering of travel expenses, conference fees, accommodation) for participation in a scientific conference with accepted article recommended for publication by FRUCT (*now works only for students from Russia*)
- FRUCT students can join existing teams and organize new projects
  - The procedure is very simple, you need to write e-mail to a project leader or send a proposal project plan to [info@fruct.org](mailto:info@fruct.org)
- Students involved in research project can ask academic and industrial experts from other FRUCT members for feedback, advice and **professional opinion** about their research



## Benefits for Students (2/2)

- Student can ask FRUCT for a supervisor/tutor for a new project
- FRUCT board can help students to find reviewers and/or opponent for MSc/PhD theses done on top of the FRUCT projects
- FRUCT has agreements with high class **seminars and conferences**, where FRUCT members special discounts and other benefits
- FRUCT projects can **publish articles** and other materials via FRUCT publishing infrastructure
- FRUCT projects can request help in finding new project members or tutor, when they need some competences or expert knowledge in certain areas



# How Academic Team Can Get an Invitation to FRUCT? (1/2)



1. Candidate team shall select/propose research topic for cooperation
  - When joining existing activity, the team shall clearly define its niche
  - When proposing new activity, the team shall clearly define the available and missing competences, the expected timeline and deliverables; and optionally it could request for other forms of support
2. The team shall prepare the overview presentation about itself and institution, the recommended list of points to present is as follows:
  - General facts about the team and university/organization
  - Present team's cooperation experience and best coop. practices it had
  - What competences team has and what resources (people, equipment, etc.) is ready to use for FRUCT activities now and potentially in future
  - Overview of recently completed and ongoing projects

# How Academic Team Can Get an Invitation to FRUCT? (2/2)



3. Appoint contact person for interacting with FRUCT and request FRUCT invitation by email
  - Following listed above steps will allow faster integration of a new team into FRUCT activities. In case of questions don't hesitate to ask help via [info@fruct.org](mailto:info@fruct.org)

# Discussion and Q&A

## Frequently Asked Questions (1/2)



- Could one see FRUCT as a form of industrial subcontracting?
  - **NO!** FRUCT is about partnering where involved parties benefit by new competences, visibility and ability to tune research towards actual industrial needs. Companies give access to the unique knowledge and competences + when needed support in form of different donations (books, devices, etc.) and grants
- What is the ownership status of FRUCT project deliverables?
  - All FRUCT results are **PUBLIC DOMAIN** and the author rights are shared between all project contributors

# Discussion and Q&A

## Frequently Asked Questions (2/2)



- What if there is clear commercial future of FRUCT project?
  - Then it is the **FRUCT GRADUATE**, as mission of making bridge between corresponding teams and project incubation is completed. Graduates shall mention FRUCT roots in later publications and welcome to present progress at seminars
- Why Nokia and NSN invest in FRUCT?
  - It is duty of socially responsible company and part of world donations program targeted in expressing good corporate citizen altitude, community responsibility and support of academic research; it also helps implementing principles of open innovation and networking academy and industry

# Contact Information

[www.fruct.org](http://www.fruct.org)

[info@fruct.org](mailto:info@fruct.org)

You are welcome to subscribe to FRUCT news mailing list

**Lets make together FRUCT be fruitful cooperation framework!**

# 6<sup>th</sup> FRUCT seminar, Helsinki, November 3-6, 2009



## CALL FOR PARTICIPATION

6<sup>th</sup> Seminar of Finnish-Russian University Cooperation  
in Telecommunications (FRUCT) Program  
Helsinki, Finland, 3-6 November 2009



### Overview

The FRUCT Program is one of the largest regional academia-to-industry and university-to-university cooperation frameworks. The seminars are attended by the representatives of over 10 FRUCT universities from Russia and Finland, industrial experts from Nokia, Nokia Siemens Networks and Symbian Foundation, a number of guests from other companies and universities.

The seminar is a forum for the most active students, a chance to meet colleagues from industrial research and learn more about the FRUCT initiative. The seminar provides an opportunity for student teams to present progress and results of their ongoing R&D projects and attend lectures given by the top academic and industrial experts. Traditionally the seminar program consists of 1.5-2 days of intensive training for one of the hottest technologies and 2-2.5 days of the seminar presentations. We warmly welcome all university research teams to participate in the seminar, present your research and join the FRUCT Program. The seminar participation is free, but requires pre-registration.

### Background and motivation

The distinctive feature of modern IT and Telecommunications industries is in dramatic shortening of the period when technology remains commercially viable. On the one hand, this is due to the competition between key market players that are pushing all manufacturers to accelerate innovations; on the other hand, this is due to technological progress speed up caused by the growing expansion of intellectual resource invested into R&D and design activities. This trend is an important call and challenge for the leading educational and research institutions around the globe. In the FRUCT we believe that it is crucial to combine forces of EU and Russia to follow up the competition in adopting university education to the new industrial trends. The first step is to strength a bridge between Russian and Finnish academic worlds, increase visibility of involved research teams and set direct personal contacts between academic and industrial experts. For more information about the FRUCT program please visit [www.fruct.org](http://www.fruct.org).

### Seminar venue

The hosts of 6<sup>th</sup> FRUCT seminar are:

- Helsinki University of Technologies, <http://www.tkk.fi/en/>
- Nokia Research Center, Helsinki lab, <http://research.nokia.com/>

### Call for papers and presentations

Please submit your papers and "presentation only" proposals by September 4, 2009. The list of the seminar focus topics is provided below, but you also welcome to propose new challenging R&D subjects:

- Open source solutions, development and maintenance of large OSS, MAEMO
- Smart spaces, new use cases for well known devices, integration of peripherals
- Inter-device connectivity, embedded networks, hardware/software co-design
- Software and services for mobile devices, design of future applications and UIs
- Technology proofing, modeling, verification and validation, testing techniques
- Design and optimization of emerging wireless network technologies
- Energy management, new sources of energy, green technologies
- Security, management of personal and business privacy
- Modern air interfaces and protocols

The paper template and further details available at: <http://www.fruct.org/seminar6>.



# 5<sup>th</sup> FRUCT seminar, St.-Petersburg, April 27-30 '09



- MAEMO training on April 27-28
  - 41 participant
- MAEMO seminar on April 28
  - over 70 participants
- Main FRUCT session on April 29-30
  - over 180 registered participants
  
- A number of special seminars:
  - MAEMO testing, April 27-29
  - Embedded Networks, April 28-29
  - Smart Spaces, April 28
  - Green Technologies, April 28-29

