

ITTI's interests in 5G PPP Phase 2

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ITTI – Facts and Experience

■ Basic facts

- SME (80 persons) focusing on **IT and telecommunications** technologies
- **”Cristal Brussels Prize 2006, 2010 and 2013”** for the most active and successful Polish SME participating in FP6 and FP7
- professional certificates, e.g. **PRINCE2, MSP, ITIL, ISO 9001, ISO 27001, TOGAF, Certificate in Software Testing (SJSI/ISTQB)**

■ Experience in international R&D projects:

- EC (5FP, 6FP, 7FP, H2020) – over 30 projects
- EDA – ca. 10 projects, ESA – 8 projects

■ Examples of projects in the area of ICT:

- FP7 FI-STAR - Future Internet Social and Technological Alignment Research
- FP7 DaVinci – Design And Versatile Implementation of Non-binary wireless Communications based on Innovative LDPC codes
- FP7 INTERSECTION – INfrastructure for heTEroogeneous, Resilient, SEcure, Complex, Tightly Inter-Operating Networks
- QBIX (Fed4FIRE) - Quality booster for QoE and context-aware adaptive service



ITTI – Areas of Expertise and Experience Related to 5G PPP Phase 2 TAs

- Business models/cases
- Own **eHealth** solution (medstar.co)
- **Service Level management** (e.g. ITIL, COBIT, other)
- Integration of **QoS for SOA** based systems (semantic QoS, middleware)
- **Adaptive video** delivery + multipath (eHealth, CCTV)
- Interoperability (TETRA, SAT, sec-gateways)

- **Test campaigns** design + execution (end-devices, mobile networks, video services, video for eHealth)
- Evaluation of **QoE** for various apps (unintrusive with cameras, network vs application gap)
- **Emulation / simulation** (ns3)
- **DTN** testbed (IBR-DTN, DTN-RG)

System level

RRM

Testing

Security

- MAC: admission control, congestion control, scheduling (4G)
- **Policy based** management (QoS, security)
- Learning networks and protocols (e.g. routing, admission, policy based decisions)

- **Cyber security**, critical infrastructure
- **Policies** / business continuity (BCP)
- **Vulnerability** assessment
- Intrusion / Anomaly detection
- Bio-inspired algorithms

ITTI – Interests in 5G PPP Phase 2 TAs

Target Activity (TA)	Offered contribution
TA2: Air Interface and Multi-Antenna, Multi-Service Air Interface ... / TA13 Security...	Security mechanisms on the air interface, e2e security/protocols, designing 5G services/solutions
TA5: Novel Radio System Architecture	Flexible service creation, context awareness, <u>policy based</u> adaptation
TA7: 5G for Future MTC Solutions	Vertical requirements (i.e. <u>eHealth</u>), new MTC UE capabilities, integration with <i>legacy MTC radios</i> and networks (i.e. TETRA, WIMAX), 5G – Vertical interface
TA8: Cognitive Network Management	SLA/SLM definition, QoE modeling for <u>eHealth</u> , network awareness, self-X optimization with policy/cross-layer

Other related interests:

- *business models (close cooperation with operators), scenarios*
- *cross-layer architecture / optimization*
- *crowdsourcing – governance aspects, suitable for 5G PPP?*

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