



H2020 Call 1 – ICT 14

5G-PPP Info Day
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ICT 14 – Advanced 5G Network Infrastructure

5G-PPP High Level KPIs

- **1000 times higher wireless area capacity and more varied service capabilities**
- **Saving up to 90% of energy per service**
(focus mobile access networks)
- Reducing the average **service creation** time cycle **from 90 hours to 90 minutes**
- **“zero perceived” downtime** for services provision
- **Very dense deployments of wireless communication**
- Enabling advanced **User controlled privacy**

98 M€



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a. Research & Innovation

1000 mobile traffic increase, versatile requirements

a.1. Strand Radio network architecture & technologies

- **Network architecture:** *focus on access speed, low latency, spectrum efficiency, usage of higher frequency bands, traffic prioritisation / QoS / QoE, address new cloud networking requirements, low energy, increased frequency re-use*
- **Versatile ubiquitous radio access infrastructure:** *support low rate IoT, fixed/mobile seamless access continuum (wireless, fixed, satellite),*
- **Flexible backhaul solutions** + *backhaul/fronthall integration*
- **Architecture for 5G "transceivers" and micro-servers:** *HW building blocks to support various spectrum scenarios*
- **Preparing for large scale demonstrators and test-beds**
(possibly leveraging existing experimental facilities)

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a. Research & Innovation

Integration wireless/fibre, unified control

a.2. Strand Convergence beyond last mile

- **Integration wireless/optical:** to support the ubiquitous access continuum (obj.: reach 10 Gb/s access speeds)
- **Unified control, Addressing management complexity:** **address** heterogeneity of technologies, optimise functionality reuse (via virtualisation)
- **Taking into account regulations**

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a. Research & Innovation

Minimise costs / optimise user service

a.3. Strand Network Management

- **Network level management:** *simplify, SON, ...*
- **Service level management:** *use of metrics, for improving user perceived QoS/QoE, "feed" big data*
- **Converged SDN and Autonomic**
- **Security across domains/risk analysis and definition of threat models**

25 M€



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b. Innovation

Flexibility, beyond firmware implementations

b. Strand Network Virtualisation & Software Networks (centre of gravity on innovative solutions, additional research must be secondary)

- *Network Functions Virtualisation, VM concurrent access to resources*
- *Orchestration & management of heterogeneity: OS like, cross-domain configurability, open source approach*
- *Integration application/service layers with network layers, landscape aware decision for reconfigurability*
- *Openness, OTT integration, E2E SLA, exposure of resources to third party providers/developers*

2 M€



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c. Support Action

Coherence and impact

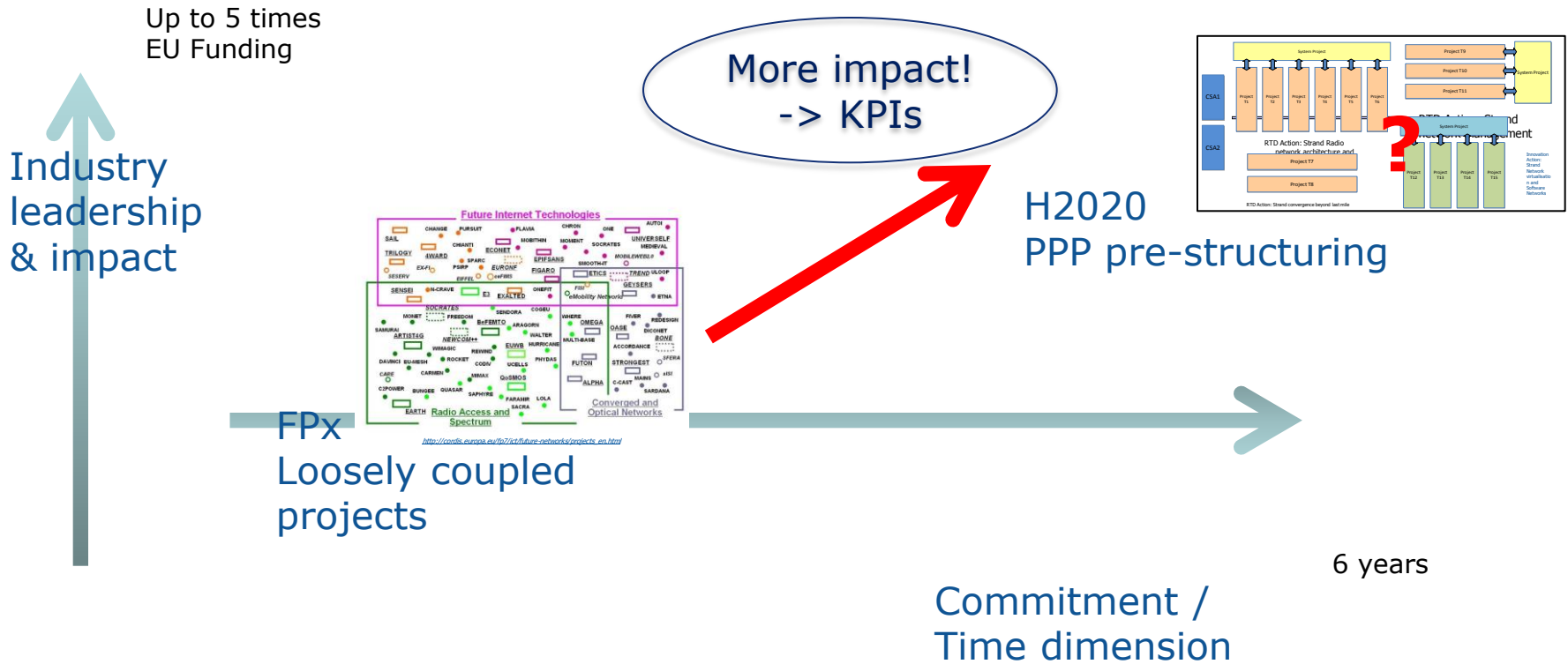
c. Support Actions

- *Programme integration, analysis of outcomes (monitoring)*
- *Societal issues*
- *International activities*
- *Support to (pre)standards*
- *Support to spectrum policy*
- *Web site,*
- *Roadmaps, including experimental facilities*

NB: International co-operation with countries having bold R&I initiatives in the field (Korea, Japan, US, China) may be considered on a win-win basis.

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Why a 5G-PPP?





Main portal (grants, calls, Work progs...)

- http://ec.europa.eu/research/participants/portal/desktop/en/funding/reference_docs.html#h2020-work-programmes-2014-15-annexes

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