CELTIC-NEXT
Proposers Day
23rd of February 2021, Online via WebEx

VIRTUOSE
(Virtualized Video Services)

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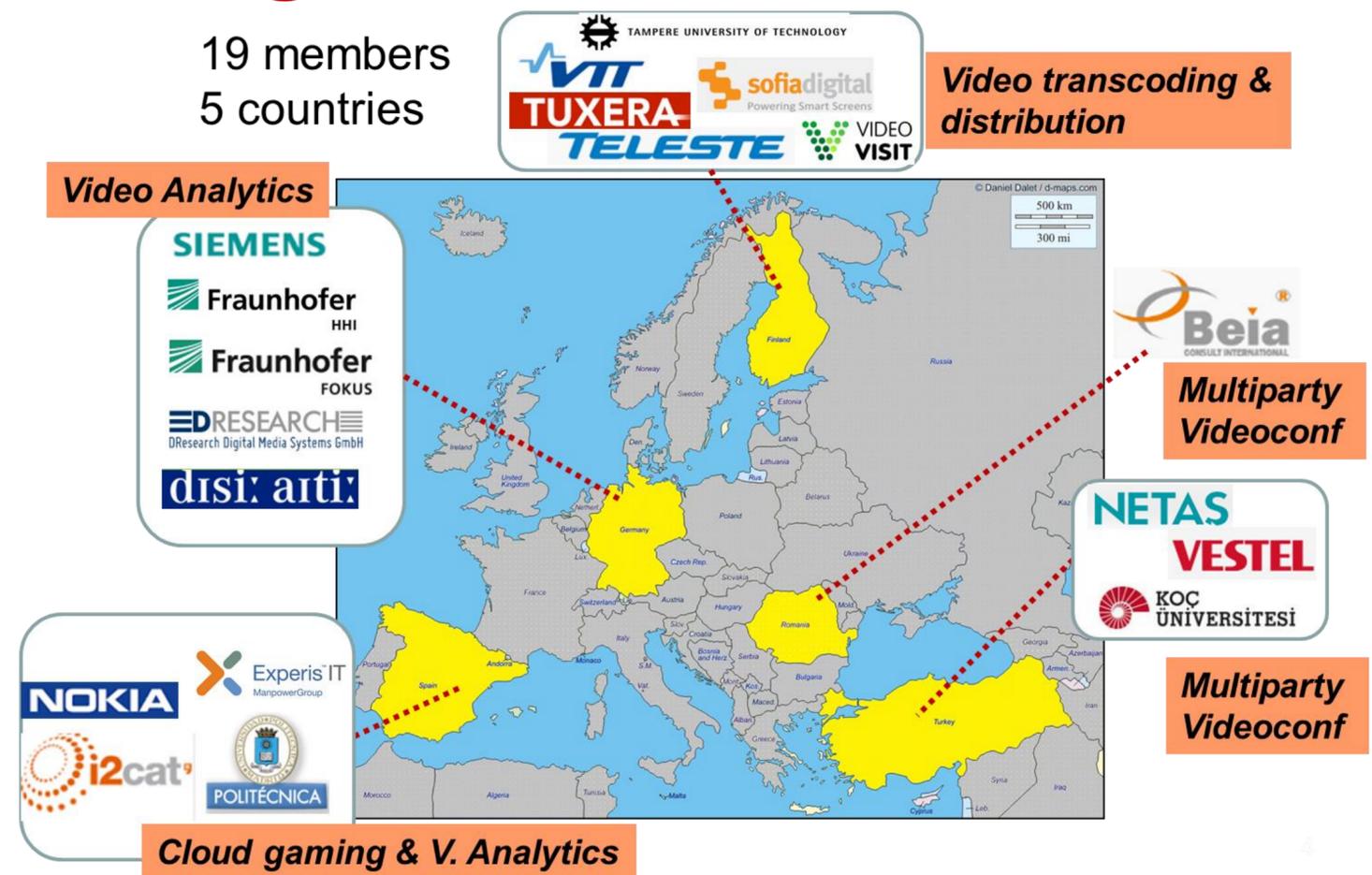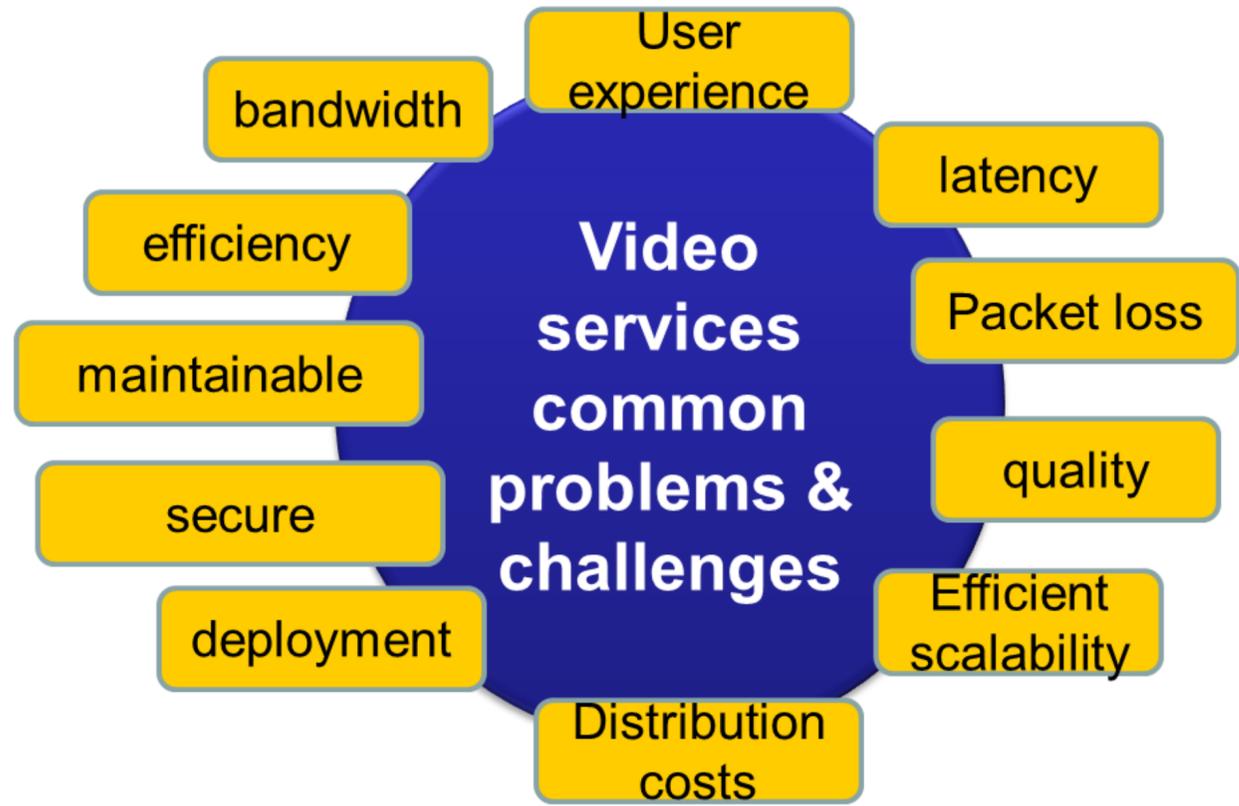**jose_javier.garcia_aranda@nokia.com**

Project overview

VIRTUOSE is a "*set of tools to build virtualized video services*"

The VIRTUOSE project focuses on four use cases / work areas, which are: **cloud gaming**, **multiparty video communications**, **video transcoding & distribution**, and **video analytics**

19 members
5 countries

Video transcoding & distribution

Video Analytics

Multiparty Videoconf

Multiparty Videoconf

Cloud gaming & V. Analytics

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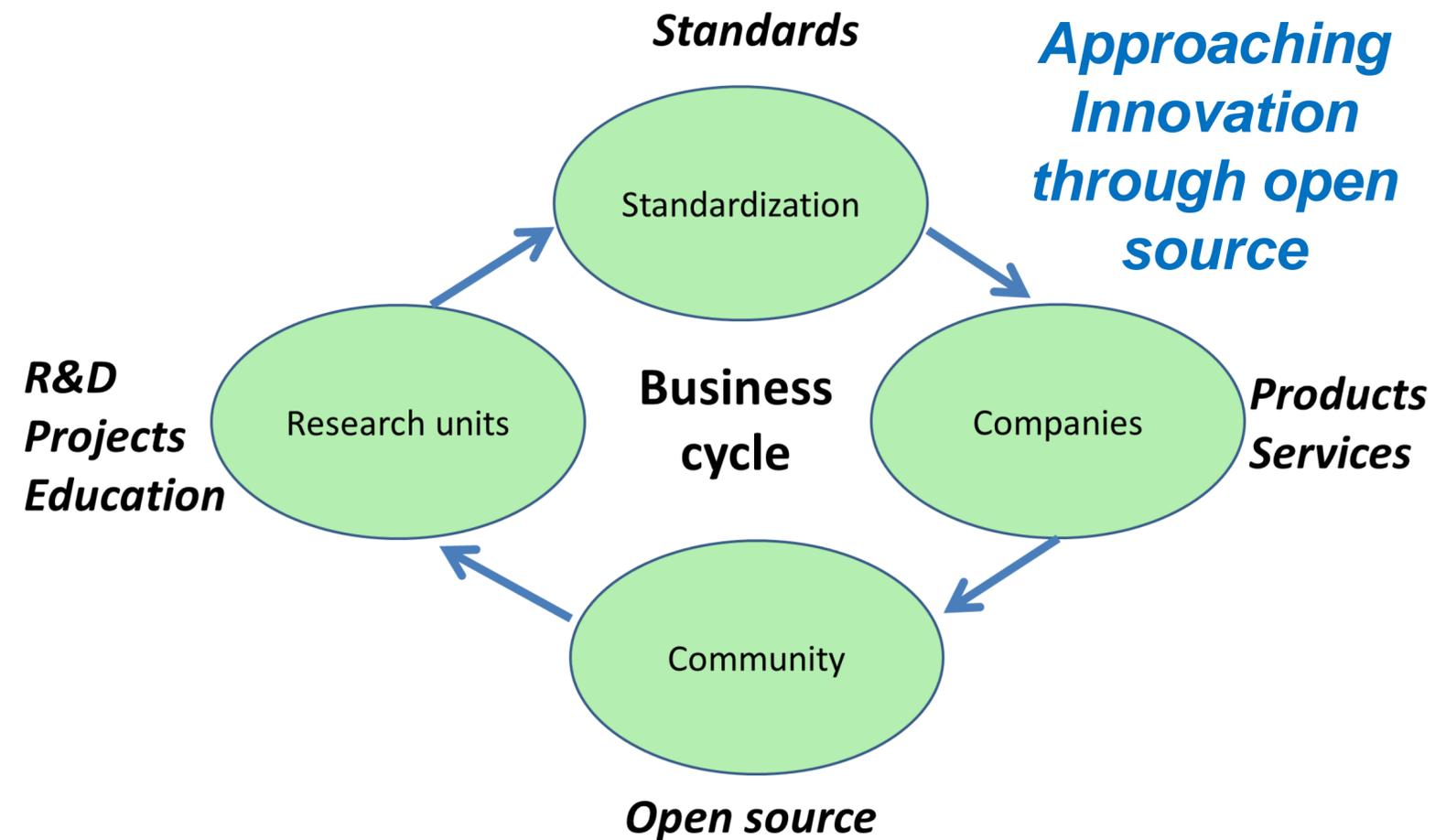
Project main achievements

- First **LHE video codec** implementation based on space domain and integrated in ffmpeg

- New methods for **video analysis based on Perceptual relevance** metrics (at space domain), coming from the first stage of the LHE video codec.

- New approach for **object detection** based on counting model which allows weakly-supervised training with state-of-the-art detection performance (using transfer learning and generation of synthetic training data)

- New **motion adaptive layer** selection algorithm which provides continuous video delivery and highly increased QoE especially on high motion activity video streams

- Several algorithms related to **object recognition, motion detection and perspective projection** and calibration were improved upon and evaluated in for challenging parking lot environments.

- Applying **virtualization proposal to VoD** have significantly advanced flexibility, time-to-market and scalability of video distribution services.

- Collaborative platform to easily integrate and access the different video services developed in the project.

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Project impact:

- Impact on 6 different products from different c[ompanies]
- 1 new company adopted the technology
- Contribution to standards on video coding
- 2 journal publications & 36 conference papers
- 3 PhD theses and 13 master theses
- **4 open-source repositories**

Impact by Nokia:

- Bring part of innovation to community, through **open-so[urce]**
- Push **5G** through fundamental needs of video services
- **Exploit 5G benefits** through a new **range of services enabled by 5G** (remote driving, cloud gaming, remote virtual reality)
- Shake the market and move the big players and stakeholders (customers) through **moving small players** , opening opportunities in the video services platforms
- Create **new research activities on real time video processing** (real-time object detection& tracking , video encoding and real time-protocols such as Q4S)

Standards

Approaching Innovation through open source

Standardization

R&D Projects Education

Research units

Business cycle

Companies

Products Services

Community

Open source

Project events:

Contact Info

For more information and for interest to participate please contact:

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Presentation available via: