Celtic-Plus
Smart Connected World

EUREKA

Celtic-Plus Proposers Day
28 October 2015, Alcatel-Lucent, Antwerp

5G connected cloud-based video analytics

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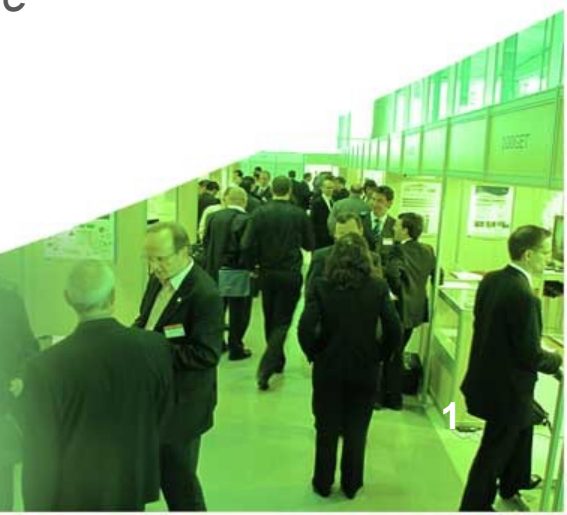


5G Berlin

Teaser

Project recipe in terms of buzzwords:

1. Take mobile video sensors (e.g. **connected cars**)
2. Compress video using **HEVC** and **adaptive video streaming**
3. Send compressed video over **5G Car2x** to the **cloud**
4. Derive understanding of video content with adaptive **machine learning** in the cloud
5. Feedback understanding to applications/services

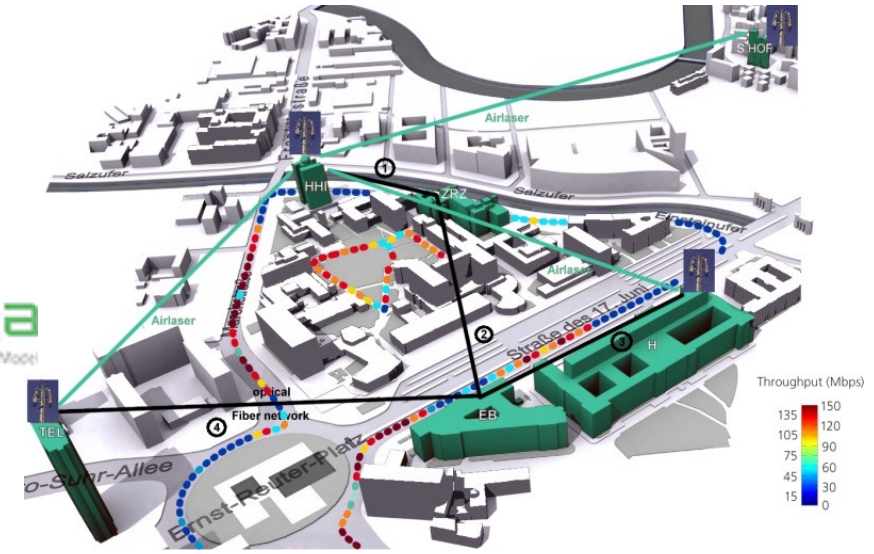
Organisation Profile (1)

Fraunhofer HHI, Berlin

Wireless Communications and Networks department

- Leading research department in 5G development
- 5G Berlin testbed

5G Berlin testbed



Organisation Profile (2)

Fraunhofer HHI, Berlin

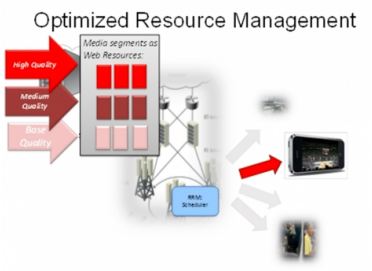
Video Coding & Analytics department

- Leading research department on video coding & processing
- Strong presence in standardisation (3GPP, MPEG, IETF)
- Strong expertise on video analytics

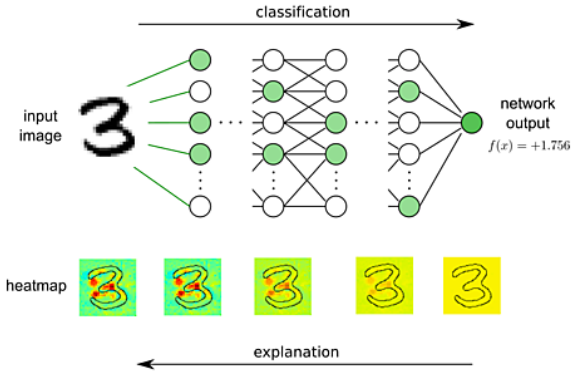
Video compression

H.264
HEVC

Video transport



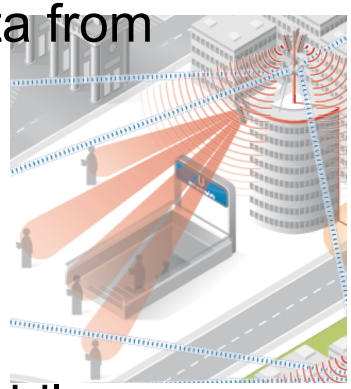
Video analytics



Proposal Introduction (1)

Project vision

- 5G + video compression technologies (HEVC) + adaptive streaming
- → Enabler for robust mobile transmission of video data from large number of video sensors to the cloud
- Cloud + machine learning
  → Enabler for large scale video understanding



Project focus

- Evaluate 5G specific features for high capacity and mobile links closely following 5G standardization: M-MIMO, Network slicing, low latency
- Research on interaction between video compression, adaptive streaming, wireless link, and machine learning algorithms
- Develop use cases and business plan

Proposal Introduction (2)

Expected outcome

- Solution for secure, reliable, and adaptive mobile video analytics over 5G mobile links
- Develop business cases
- Facilitate use cases by new technologies and bring them closer to the market
- Contribute to standardization

Schedule

- Proposal submission e.g. to next call in 2016
- Duration 3 years (Closely linked to 5G standardization timeline)

Partners

We are looking for partners interested to collaborate from industry and academia for

- Use cases
- Cloud/BigData processing (e.g. edge cloud)
- Security
- Users from industry (e.g. automotive, manufacturing, telecommunications,…)
- Business cases

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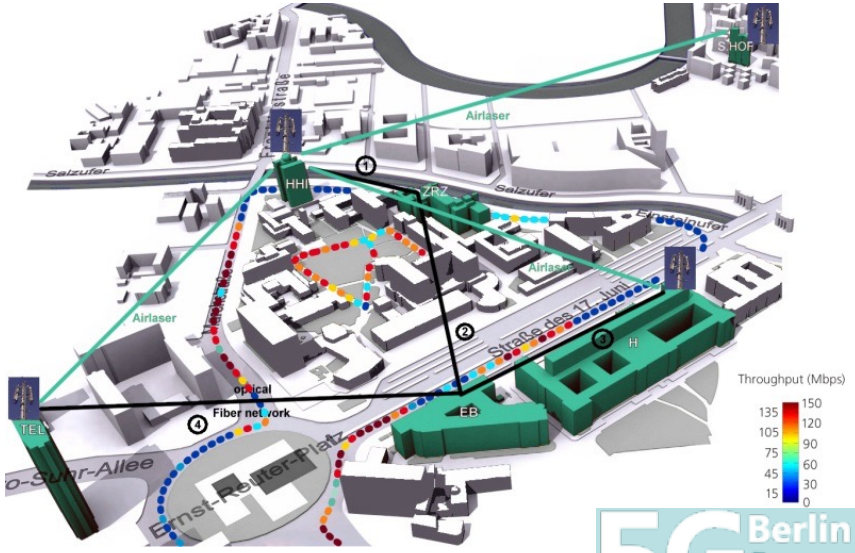
H.264
HEVC



Contact Info

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Video Coding & Analytics department:
http://www.hhi.fraunhofer.de/departments/video-coding-analytics.html

Wireless Communications and Networks department:
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