

July 17-18, NICT Koganei, Japan



- 3A: Signal quality of XR optics after 100Gbps x 2 Point-To-Multipoint(PtMP) transmission over FXC and FSO.

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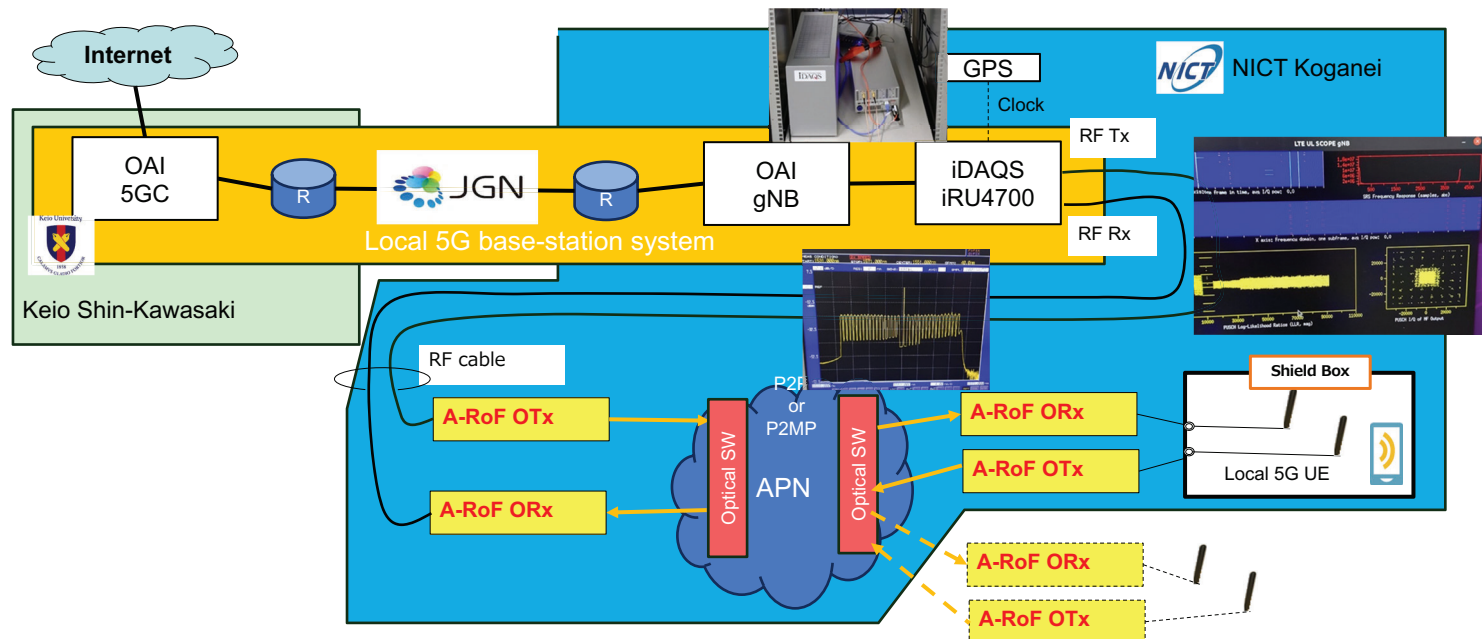
# Integration of the Heterogeneous All Optical Network and Intelligent End-to-End Automation in Hybrid Cloud Era

iPOP2025 Showcase

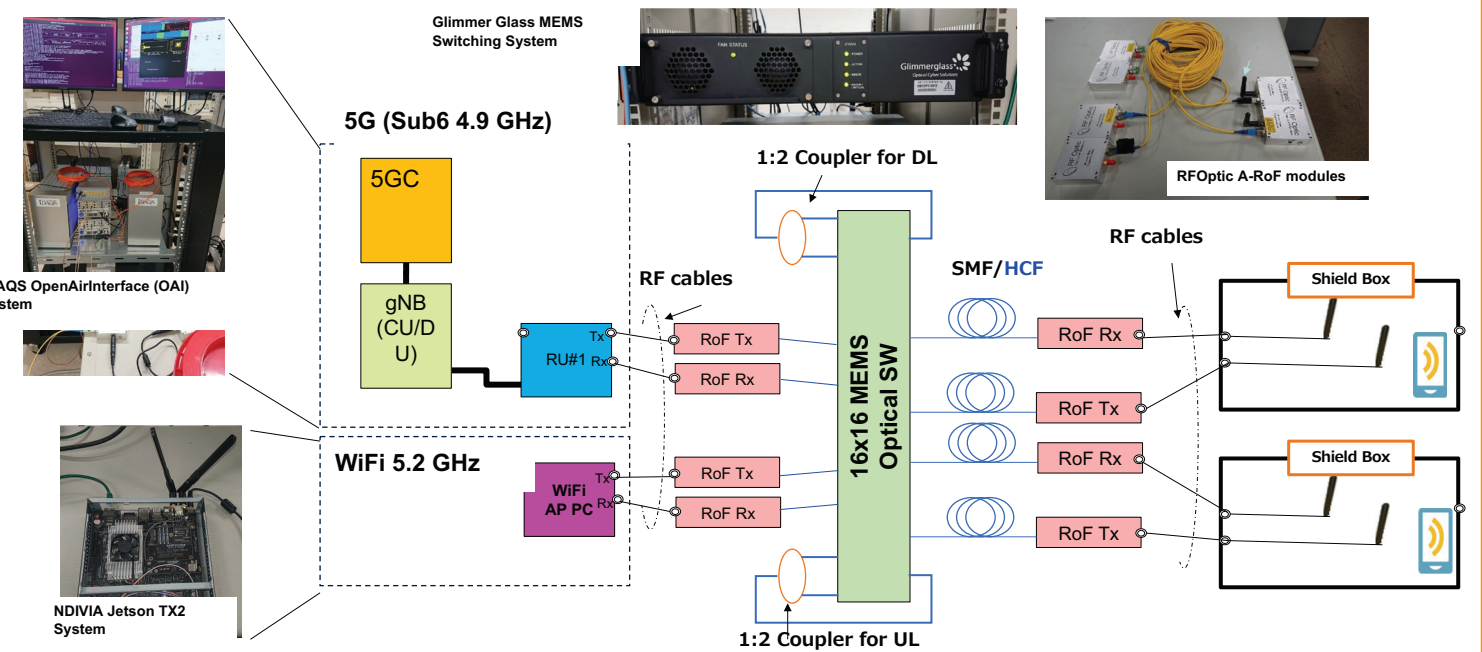
## 2. Local 5G over APN and Secured Packet Analysis

### Analog Radio over Fiber Networking

- Local 5G system over JGN and APN
  - "Switched/Multispot RoF" over all photonics network

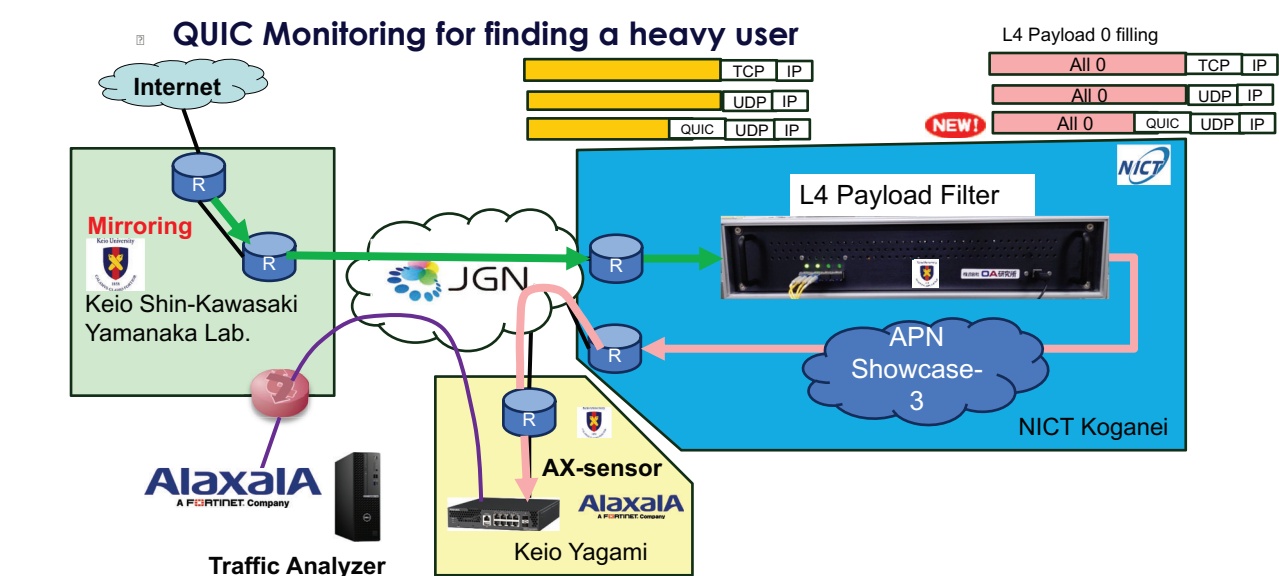


- Analog RoF networking testbed with field installed Hollow-core Fiber is constructed in Keio Shin-Kawasaki Campus

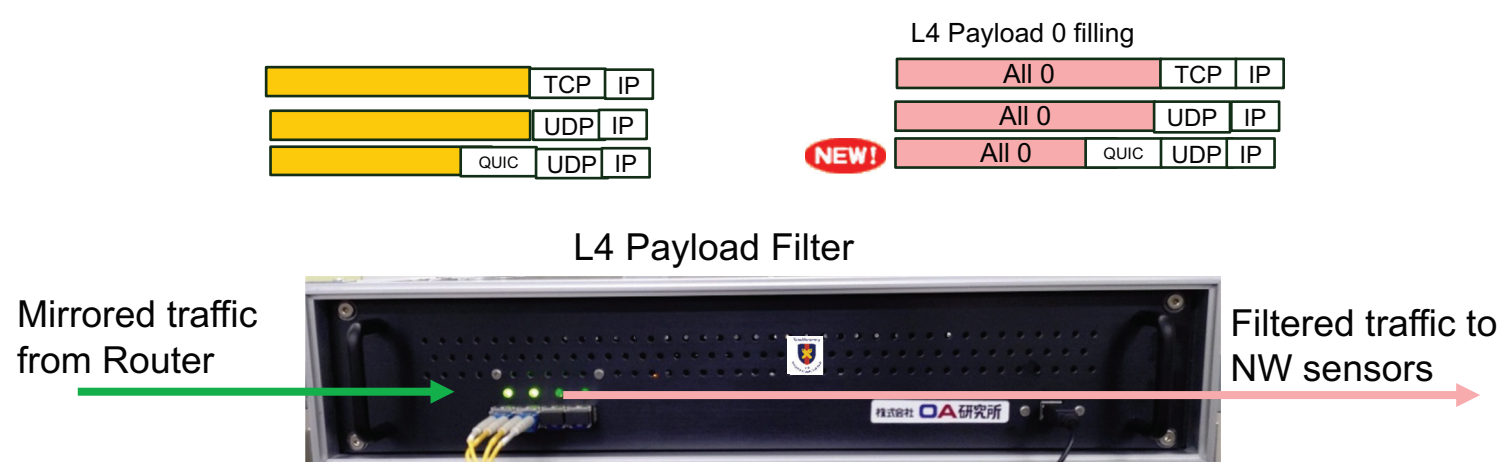


## 2. Local 5G over APN and Secured Packet Analysis

### Traffic Analyze with L4 Payload Filtering



- Live traffic monitoring with protecting user privacy.
  - Currently working in Keio campus
  - QUIC monitoring function has been added
- Bidirectional 10 GE x 2 or Unidirectional 10 GE x 4
  - 100 GE version is also available by OA Lab.



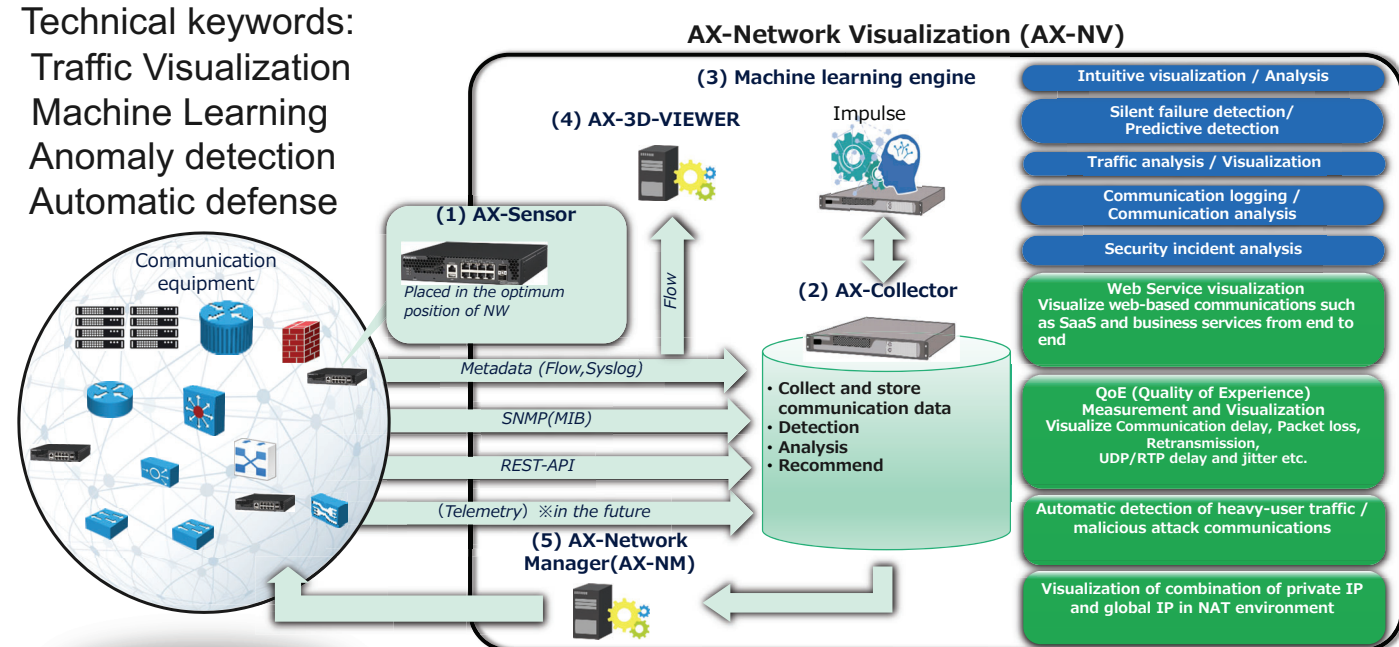
### ALAXALA's Network Visualization and Control Solution

AX-Network-Visualization(AX-NV) efficiently collects data and device information on the network and uses machine learning to achieve accurate visualization and anomaly detection.

AX-Network-Manager(AX-NM) provides cyber attack automatic defense solution with UTM, FW, IDS/IPS system and AX-NV, and minimize damage by "automatic cause elimination".

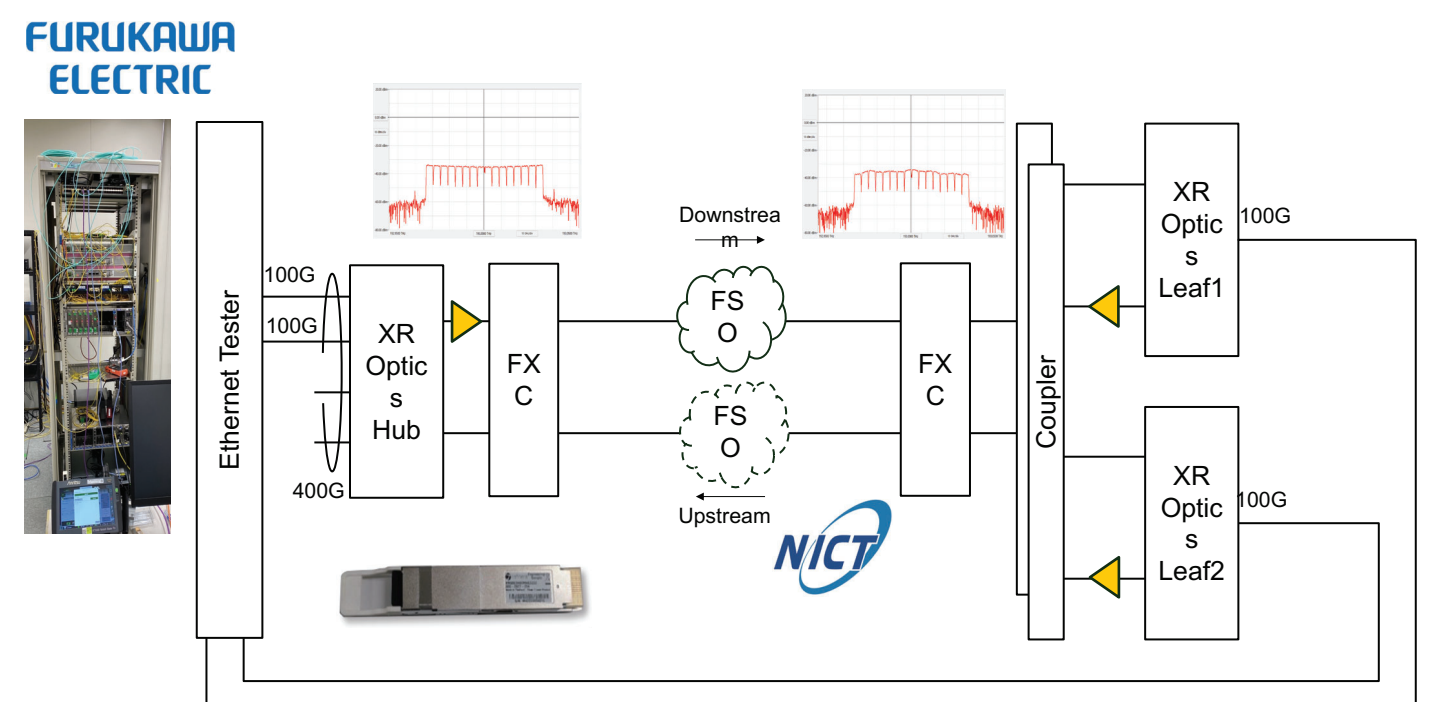
Technical keywords:

Traffic Visualization  
Machine Learning  
Anomaly detection  
Automatic defense



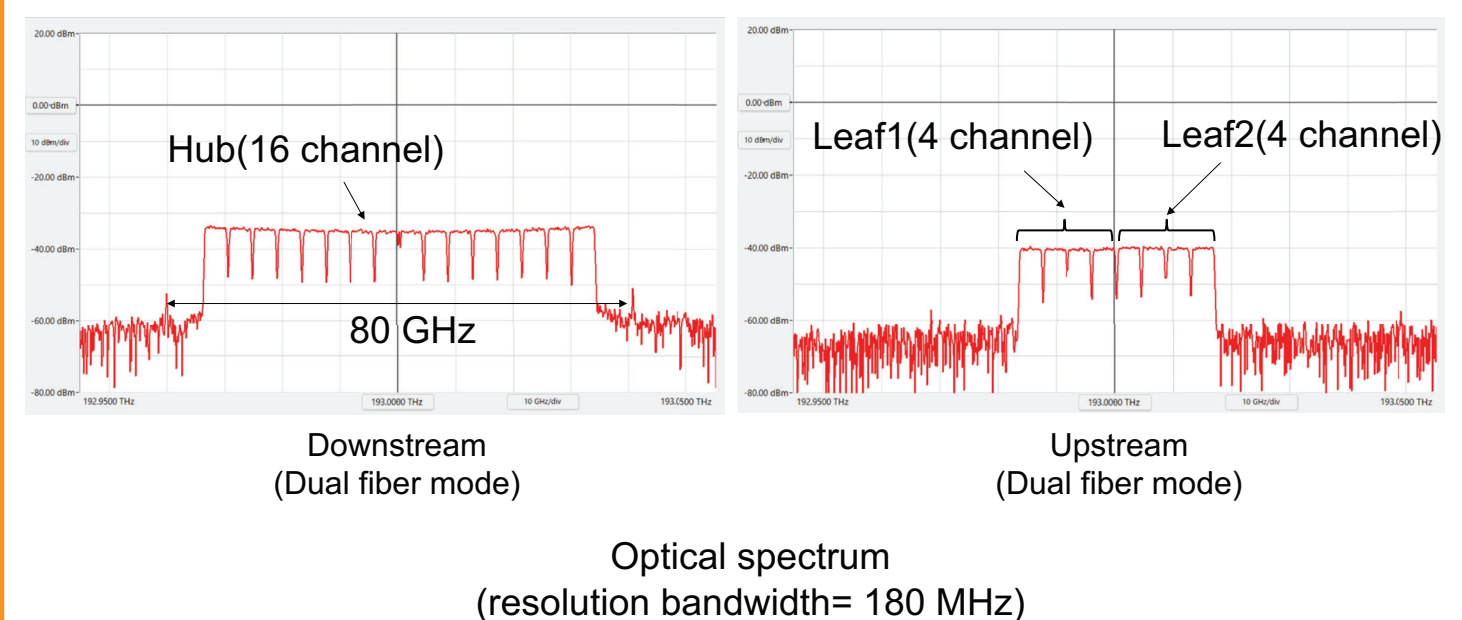
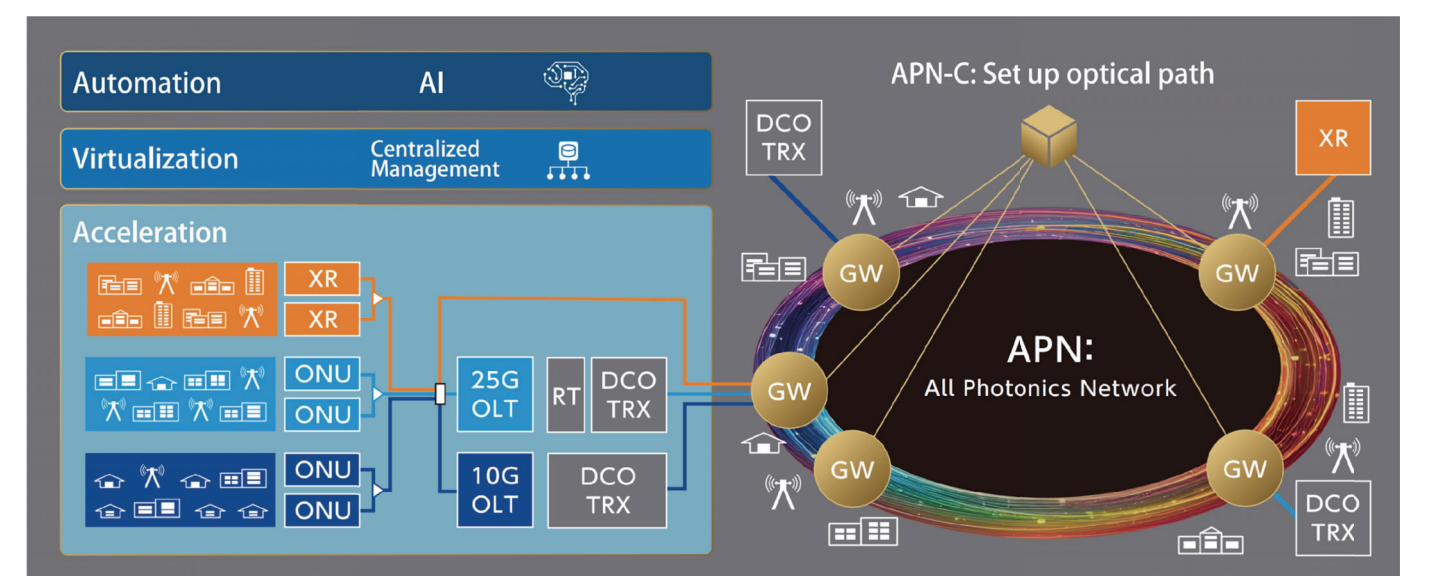
## 3. XR optics PtMP transmission over FSO

Signal quality of XR optics after 100Gbps x 2 Point-To-Multipoint(PtMP) transmission over FXC and FSO. Measure pre-BER, latency and optical spectrum and compare with back-to-back.



### XR Optics

- High-speed solutions with coherent technology
- Flexible distribution of up to 400 Gbps (25 Gbps x 16 subcarriers) to users in 25 Gbps units
- Low latency communication due to the ability to occupy user-distributed subcarriers
- Consideration to overlay with PON at Open XR Optics Forum



## Acknowledgements

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