



# GNA-G: Network eAcademy Working Group

Maria Isabel Gandía Carriedo (CSUC/RedIRIS)

WP6 T4 Leader at GN5-2

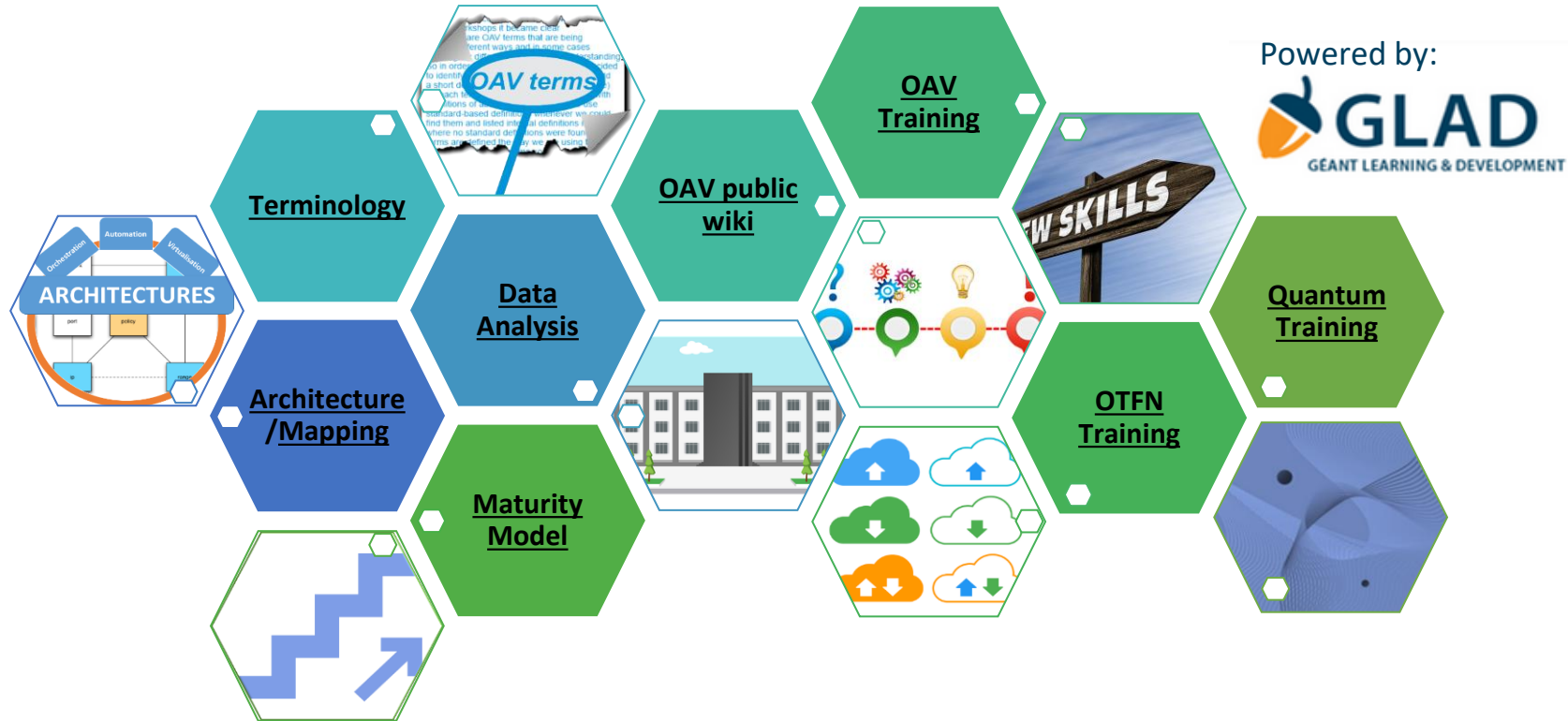
GNA-G Community VC – Q3

21 October 2025

Public (PU)

# Network eAcademy, as a Service in GÉANT

The Network eAcademy was born to help and support organisations in human capital development in Network-development-related domains, as an umbrella covering several activities



## Monthly Open Meetings

- The Working Group is organising monthly meetings to:
  - Discuss the last updates around Network Development topics
  - Make the contents and tools of the Network eAcademy available to the entire research and education community
  - Share knowledge
  - Discuss with Research and Education institutions around the world possible improvements to the initiative.
- It is also a platform to support R&E institutions in measuring their Orchestration, Automation and Virtualisation (OAV) maturity status and in comparing their OAV architecture with sibling organisations.
- Anyone interested in the Network eAcademy is invited.

## First Monthly Meeting: 8th October

- Intro to the Network eAcademy and the Working Group.
- Last updates on AI:
  - Bojana Koteska gave us an overview of a couple of Learning units she has developed on AI: “Introduction to AI” and “Neural Networks and Deep Learning”.
  - Unsupervised Learning in last stages.
- Discussion
- The presentations are available here: <https://events.geant.org/event/1954/>

## AI Updates

- The current Network Automation eAcademy map includes a whole section on Intelligence Management, which is closely related to AI.

# Network Automation eAcademy

- Legend**
- Unit
  - Document / ext. link
  - Released / ● Not released

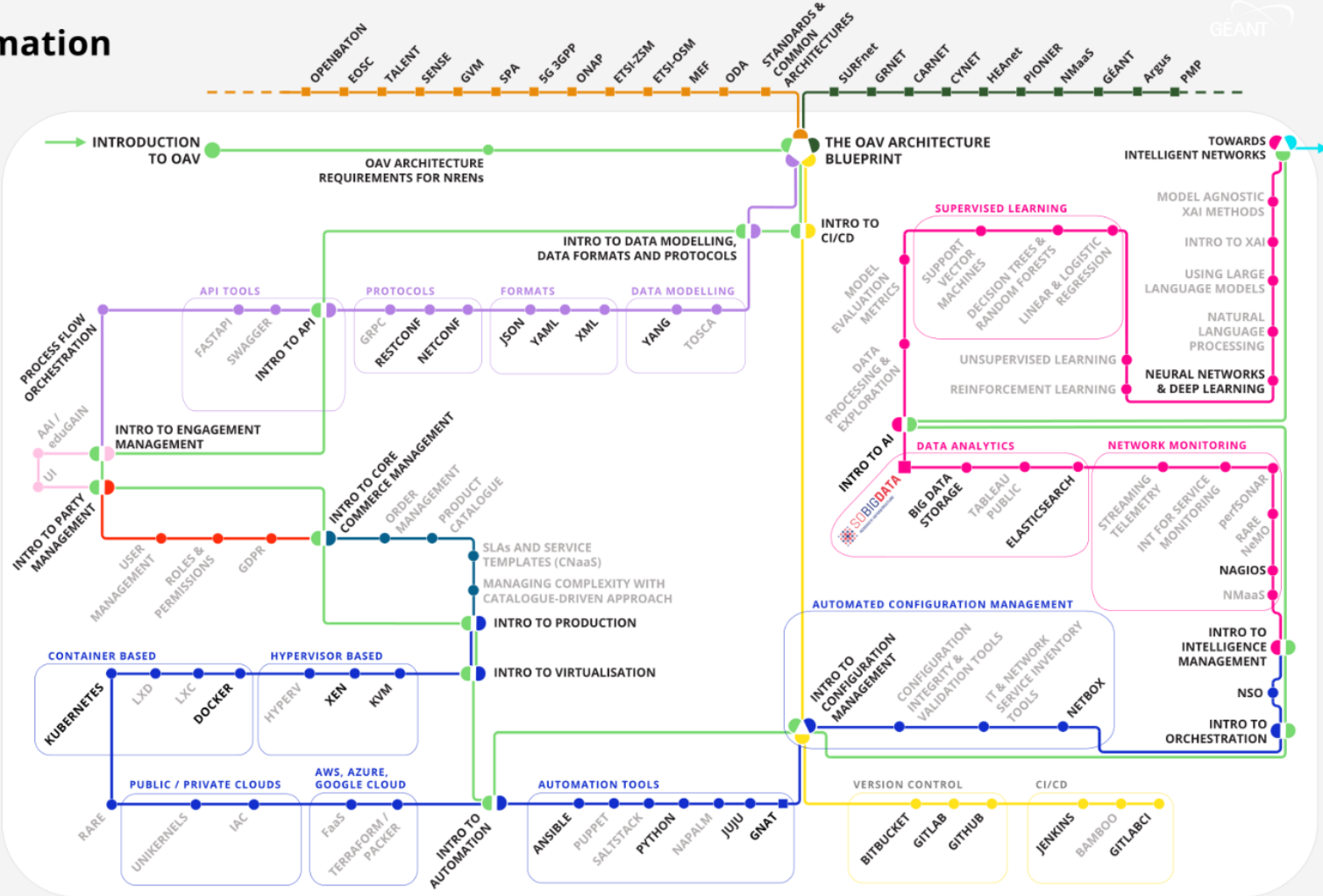
Exchange point

You can jump back and forth between this station and all exchange points at any time

## Tracks

- GENERAL INTRODUCTION
- AGILE, DevOps, CI/CD
- DECOUPLING & INTEGRATION
- PRODUCTION
- ENGAGEMENT MANAGEMENT
- PARTY MANAGEMENT
- CORE COMMERCE MANAGEMENT
- INTELLIGENCE MANAGEMENT
- OAV REALISATION
- USE CASES AND EXAMPLES
- ARCHITECTURE

Functional Blocks in the TM Forum OPEN DIGITAL ARCHITECTURE (ODA)

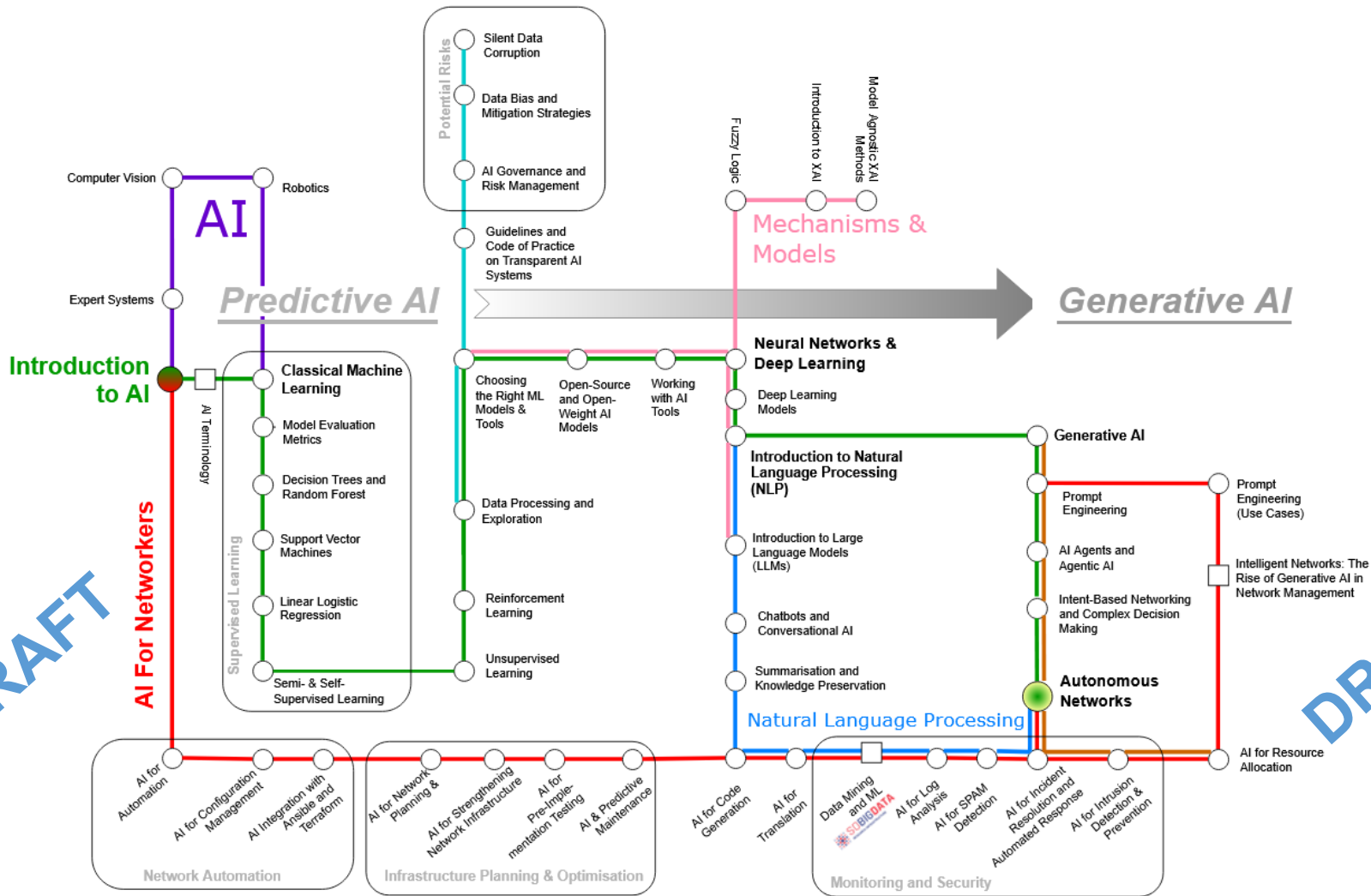


## AI Updates

- We already made the “Intelligence Management” line longer to include more units.
- The interest around AI-relevant topics is increasing.
- We are detaching the AI section of the Network Automation map (part of Intelligence Management).
- The map is still a draft, with two possible introductory paths:
  - To understand how AI Works (Introduction to AI)
  - To use AI to manage the Network (AI for networkers)


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## Quantum Updates

- We are completely restructuring the Quantum map to include units from HQCI.
- The wiki is already updated: <https://wiki.geant.org/spaces/NETDEV/pages/870744159/Quantum+Technology+Training>

<p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>• Quantum Algebra Class             <ul style="list-style-type: none"> <li>◦ QuBits (30)</li> <li>◦ Operator Multiplications: Variants (30)</li> <li>◦ Mathematical Operators (30)</li> <li>◦ QuBit Entanglement (30)</li> <li>◦ Teleportation (30)</li> </ul> </li> <li>• Why QKD? (HQCI) (20)</li> </ul>	<ul style="list-style-type: none"> <li>• QKD Architecture             <ul style="list-style-type: none"> <li>◦ Quantum Layer (HQCI) (20)</li> <li>◦ Key Management Layer(HQCI) (25)</li> <li>◦ Application Layer (HQCI) (20)</li> </ul> </li> <li>• Towards Software-Defined QKD Networks (HQCI) (20)</li> <li>• QKD Protocols             <ul style="list-style-type: none"> <li>◦ Artur Ekert (HQCI) (30)</li> </ul> </li> </ul>
<p><b>Quantum Simulation</b></p> <ul style="list-style-type: none"> <li>• IBM Qiskit (10)</li> </ul>	<p><b>Quantum Standardisation</b></p> <ul style="list-style-type: none"> <li>• ETSI Standard Key Exchange APIs (30)</li> <li>• Challenges Ahead on the Road to EuroQCI (HQCI) (15)</li> <li>• Towards a European QCI Standardisation Strategy (HQCI) (15)</li> <li>• Towards National QKD Evaluation and Certification (HQCI) (15)</li> </ul>
<p><b>Post Quantum Cryptography</b></p> <ul style="list-style-type: none"> <li>• Quantum Cryptography (HQCI) (45)</li> <li>• Introduction to PQC - PQC transition (HQCI) (30)</li> <li>• The Hybrid State-of-Play: How to Securely Combine Quantum and Post-Quantum Technologies (HQCI) (15)</li> <li>• QKD-PQC: Securing Key Transfers for Application Layer Utilisation (HQCI) (35)</li> </ul>	<p><b>Applied QKD</b></p> <ul style="list-style-type: none"> <li>• How to Keep the Most Dangerous and Sensitive Data Private (HQCI) (15)</li> <li>• Authentication in QKD (HQCI) (20)</li> <li>• Extracting and Managing Keys from QKD to Enhance Cryptographic Techniques for File Encryption (Lab) (HQCI) (55)</li> <li>• QKDise Your Applications (HQCI) (10)</li> <li>• Testing and Evaluation Infrastructure for the European Quantum Communication Infrastructure (EuroQCI) Initiative (HQCI) (15)</li> </ul>
<p><b>Quantum Resources</b></p> <ul style="list-style-type: none"> <li>• Experiment Polarisation Encoding QKD in Virtual Lab (HQCI) (40)</li> </ul>	<p><b>External Collaborations</b></p> <ul style="list-style-type: none"> <li>• HellasQCI Online Training Platform (HQCI) </li> </ul>

# Quantum Tech eAcademy

## Legend

● Unit / ■ Document / ◆ Video

● Released / ● Not released

⬮ Exchange point

**Introduction** → Start here: The thick line marks introductory units

⊙ Exchange point: From this station onwards, you can continue the course in any direction

## Tracks

GENERAL INTRODUCTION

QUANTUM RESOURCES

QUANTUM SIMULATION

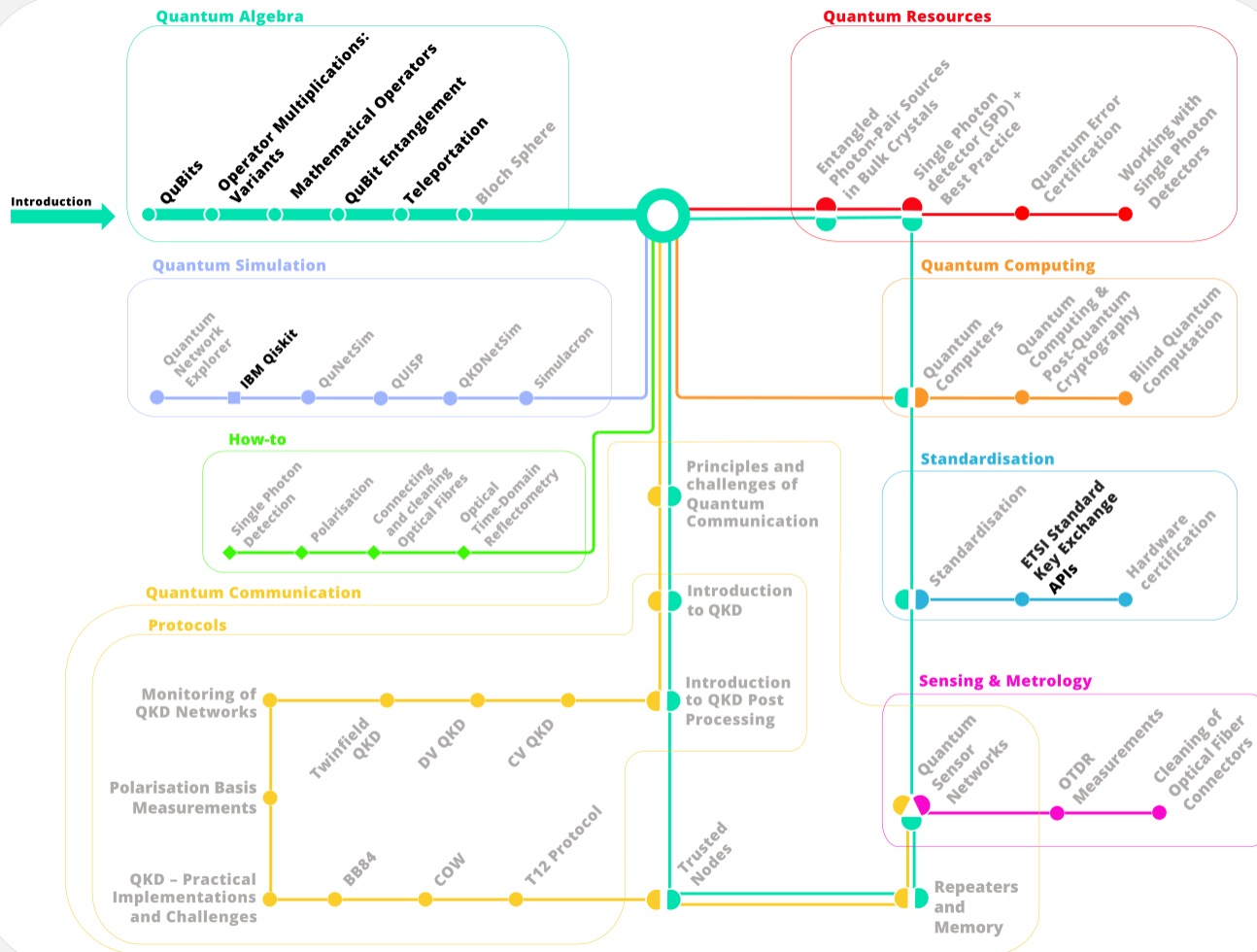
QUANTUM COMMUNICATION

QUANTUM COMPUTING

SENSING & METROLOGY

STANDARDISATION

HOW-TO



# Quantum Tech eAcademy

## Legend

- Unit
- Document
- ◆ Video
- Released
- Not Released
- Exchange point

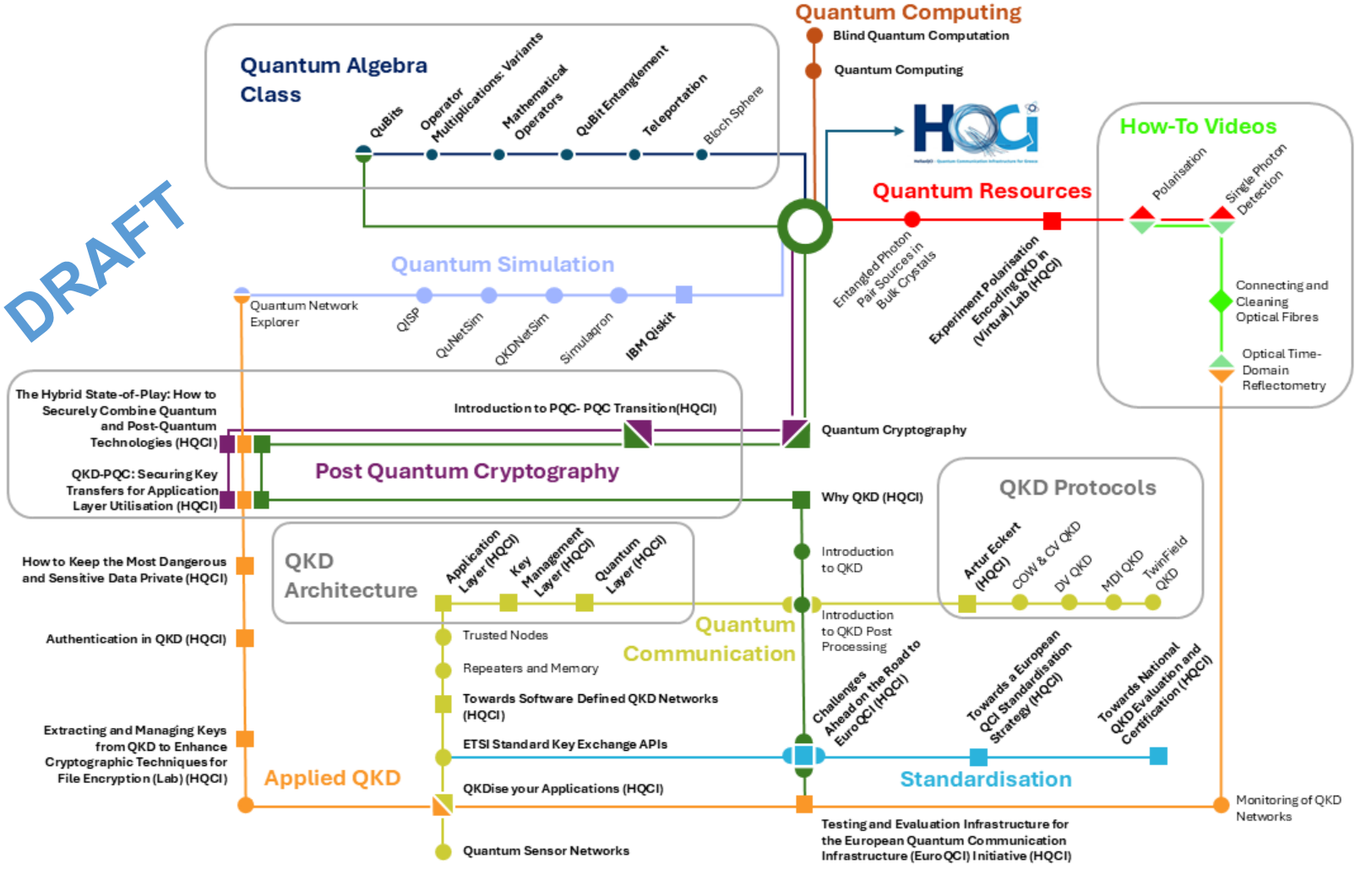
Start Here: the green line marks the introductory units

Exchange point: From this station onwards, you can continue the course in any direction

## Tracks

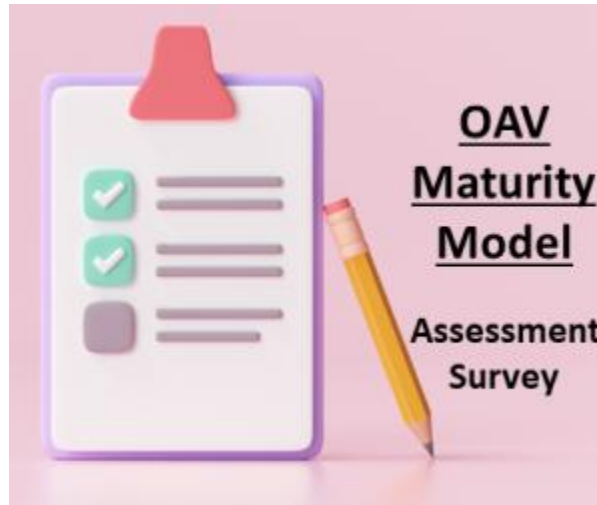
- GENERAL INTRODUCTION
- QUANTUM ALGEBRA
- QUANTUM COMMUNICATION
- QUANTUM SIMULATION
- QUANTUM COMPUTING
- POST QUANTUM CRYPTOGRAPHY
- APPLIED QKD
- STANDARDISATION
- QUANTUM RESOURCES
- HOW-TO VIDEOS

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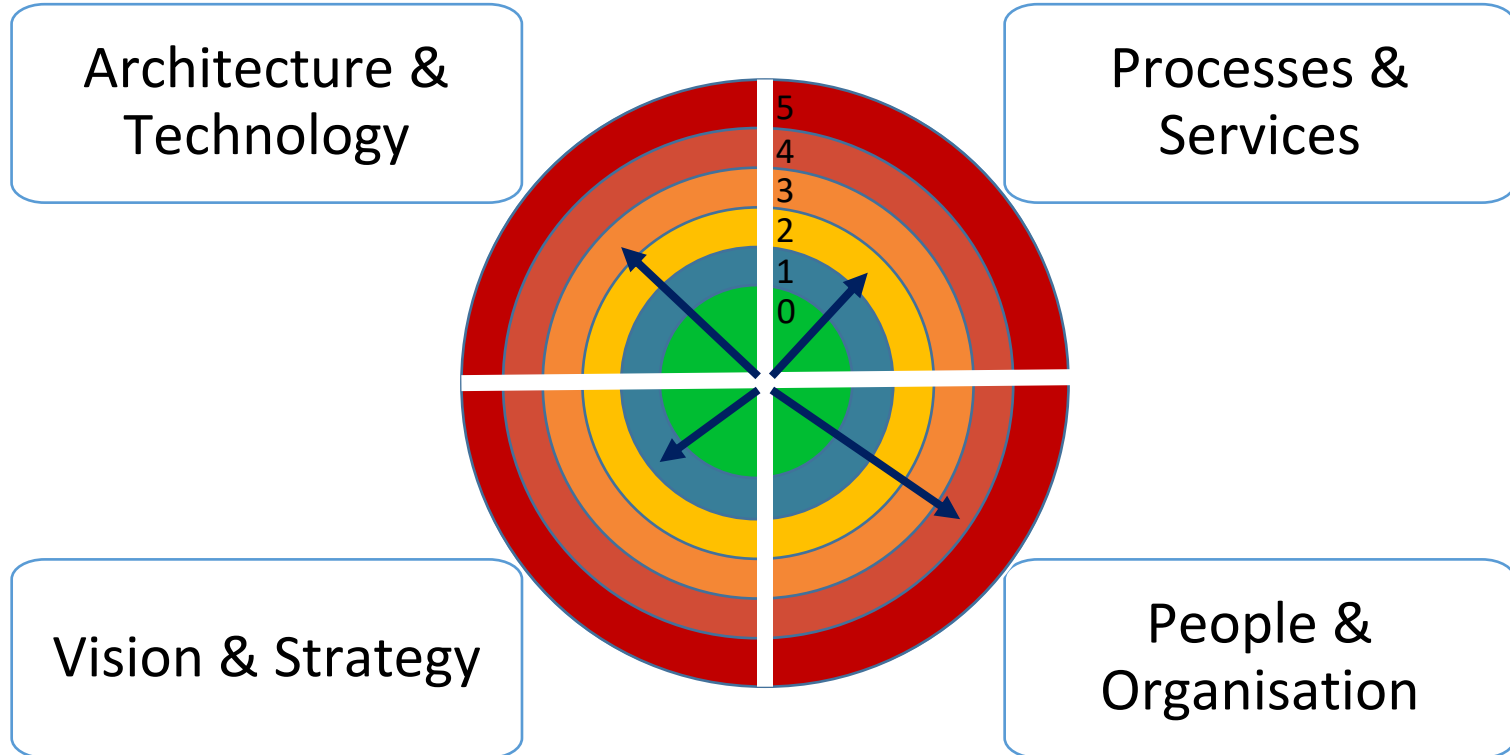


## Orchestration, Automation and Virtualisation Maturity Model

- Self-assessment:  
<https://wiki.geant.org/spaces/NETDEV/pages/543752253/OAV+Maturity+Model>  
<https://www.surveymonkey.com/r/SPYDQVB>
- We are looking for volunteers to run it, give us feedback and make it helpful.
- We can help you fulfill it!



## OAV Maturity Model - Dimensions



<https://www.surveymonkey.com/r/SPYDQVB>

# OAV Maturity Model - Stages



## Next Meeting

- 12th November. You are invited!
- Register here: <https://events.geant.org/event/1955/>

## What Else Can You Do?

- Follow the training tracks:  
<https://wiki.geant.org/spaces/NETDEV/pages/870744119/Network+eAcademy+Training+Portal>
- Map your Architecture. Templates and examples here:  
<https://wiki.geant.org/spaces/NETDEV/pages/362742030/Mapping+Use+Cases>
- Do a self-assessment through the OAV Maturity Model:  
<https://wiki.geant.org/spaces/NETDEV/pages/543752253/OAV+Maturity+Model>
- Send us your examples for the Community Portal:  
<https://wiki.geant.org/spaces/NETDEV/pages/212303927/OAV+Community+Portal>
- See the Terminology and Glossary:  
<https://wiki.geant.org/spaces/NETDEV/pages/212303919/OAV+Terminology>
- Subscribe to the mailing list for the Network eAcademy Working Group at  
<https://lists.gna-g.net/postorius/lists/network-eacademy-wg.lists.gna-g.net/>
- Contact us to share your ideas/suggestions: [network-eacademy@lists.geant.org](mailto:network-eacademy@lists.geant.org)



**Thank You!**

[www.geant.org](http://www.geant.org)



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