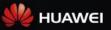# Agenda

- Challenges

- Goals

- Scope

- Objectives

- Phases

- Next Steps

Challenges

- Automating complex human-dependent decision-making processes,
- Determining which services should be offered, and which services are in danger of not meeting their SLAs, as a function of changing context
- Defining how best to visualize and how network services are provided and managed in order to improve network maintenance and operation
- Providing an experiential architecture (i.e., an architecture that uses AI and other mechanisms to improve its understanding of the environment, and hence the operator experience, over time)

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Standardization Goals

- Describe answers to the aforementioned challenges to improve the experience of operators and network administrators focusing on improved policy and automation
- Specify a policy-based, model-driven architecture that defines functionalities to assist orchestration on adapting offered services to changing user needs, business goals, and environmental conditions at scale
- Propose an approach that enables the networked experience to be measured and presented to operators and other stakeholders
- Propose recommendations to other SDOs on how this architecture may be realized
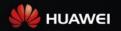
Scope

- ISG ENI focuses on improving operator experience, adding closed-loop artificial intelligence mechanisms controlled by policies and using context-aware input to more quickly make actionable decisions
- Unique value of the ISG ENI:
  - specify an architecture using a resource-based model that adapts the offered resources and services according to monitored changes in user needs, business goals, and environmental conditions
  - using a functional block approach, where the externally visible behaviour collected from existing network entries is processed by context-aware policy decisions using machine learning and reasoning

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Objectives

- Identify the requirements (e.g., from operators and network administrators) to improve operator experience
- Specify an architecture that is used to apply adaptive and intelligent service operation and management, which uses dynamic policy management to assist the orchestration of service management and resource management at scale,
- Propose a standard definition on how the networked experience is measured and projected/presented to operators and other stakeholders
- Propose recommendations to other SDOs on how this architecture may be realized

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ETSI ISG ENI Phases

- Phase 1 (informative):
    - Lasting approx. 12 months from launch, will describe use cases and requirements, definition of features, capabilities and policies, with following tasks:
        - Identify and describe appropriate use cases
        - Identify and describe the requirements for the improved Operator Experience
        - Carry out a gap analysis of work on context-aware and policy based standards
        - When gaps are found on existing interfaces that have been developed by other SDOs and ISG ENI needs to re-use, then the recommendation on how these gaps should be filled will be discussed in co-operation with the SDO that defined these interfaces within Phase 1 and beyond
    - Output:
        - initially publish informative best practice documents (Group Reports (GRs)) that show how cross-SDO functional architecture, interfaces/APIs, and specific models or protocols address stated objectives/requirements; Additional Informative Group Reports will also describe how policies can be managed and also illustrate service and resource management

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ETSI ISG ENI Phases

- Phase 2 (informative/normative), lasting approx. 12 months from completion of Phase 1:
    - Document the ENI architecture in informative Group Report(s), and demonstrate how the different scenarios defined in Phase 1, are addressed using a dynamic policy-driven management approach
        - Architecture may be in one document or logically split between documents as required
        - Architecture should support the functionality to be able to learn from inputs and decisions, along with information relating to the context of the decisions
    - Output is expected to be a number of informative Group Reports and/or normative Group Specifications

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ETSI ISG ENI Phases

- Phase 3 (informative/normative): lasting approximately 12 months from completion of Phase 2, that will:
  - seek to quantify the measurable parameters, and may include interface specification testing and validation if deemed necessary by the group.
  - quantify the measurement of metrics for equipment for improving:
    - Operator Experience and understand the impact of how policy-driven functionality is used
    - the equipment available to give better operator experience
  - illustrate the closed-control operation of networks to provide and protect a given level of Operator Experience
- Output of Phase 3 is expected to be a number of informative Group Reports and/or normative Group Specifications
- In Phase 3 or beyond:
  - ISG ENI may consider the option to develop formal interface specifications, but only where there is a clear need to do so, and if these interfaces are not being developed by other SDOs

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Next Steps

- Proposal under review by ETSI Board
- Seeking for more supporters and contributors
- Plan to start beginning of 2017

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