



**IEC TC57 AG22**  
**Prepare for the Future**

IEC. Making electrotechnology  
work for you.

**Jean Raymond, ing., Ph.D., M.Sc.A.**  
**AG22 Convenor**

**Event: TF 61850 Forum**  
**Date: April 25<sup>th</sup> 2024**



**International  
Electrotechnical  
Commission**

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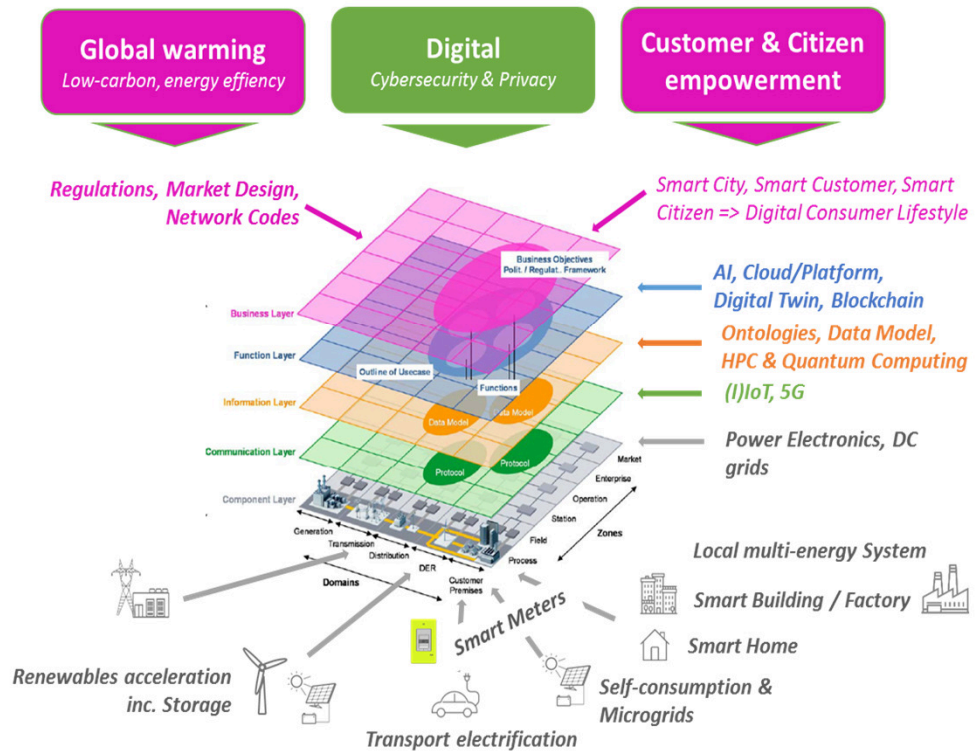
# Agenda

- **Reasons for this Visionary Group**
- **History**
- **IEC TC57 Structure**
- **AG22**
  - **Mission**
  - **Scope**
  - **TFs**
  - **Interest**



# Reasons for this visionary group

⇒ Utilities are experiencing a « compressive disruption »  
 (margins decline everywhere in parallel with increasing expectations !)



## CONSUMER BEHAVIORS

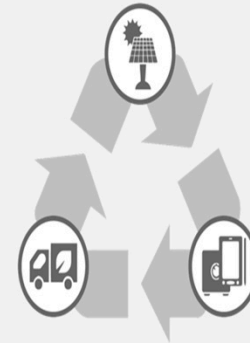
### Key Trends

Societal changes, economic and energy behaviors, sustained development of renewable energies (decentralized generation, solar and wind), greater participation of customers in the dynamic management of the system - the consumer at the center, net zero energy consumption

## INDUSTRY

### Key Trends

Operation to the limits with minimum margins, arrival of the storage without constraint of location, uncertainty on the viability and durability of the current economic model, investment in solutions of flexibility, increasing place of the regions dynamic

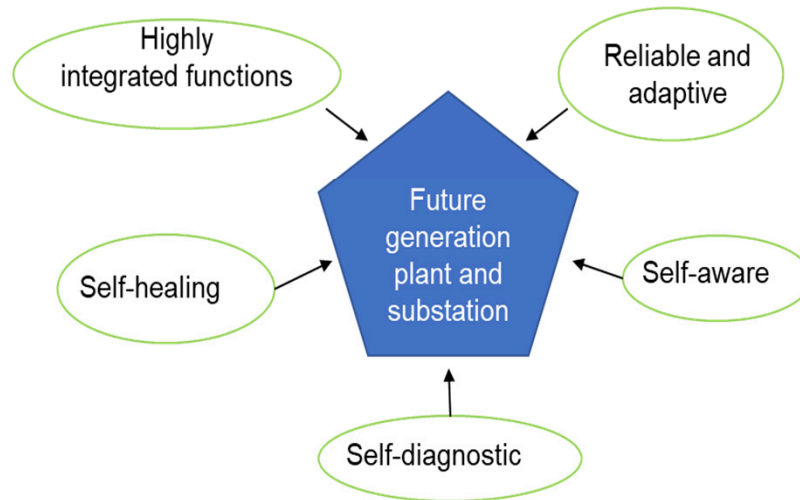
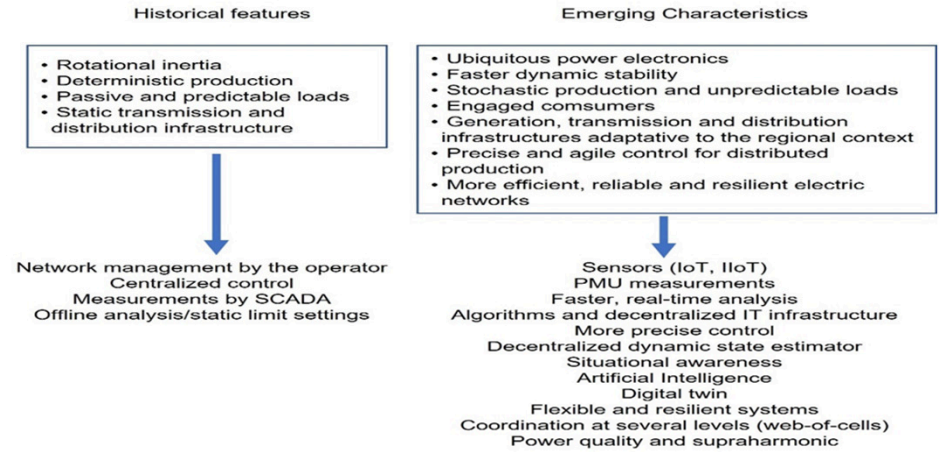
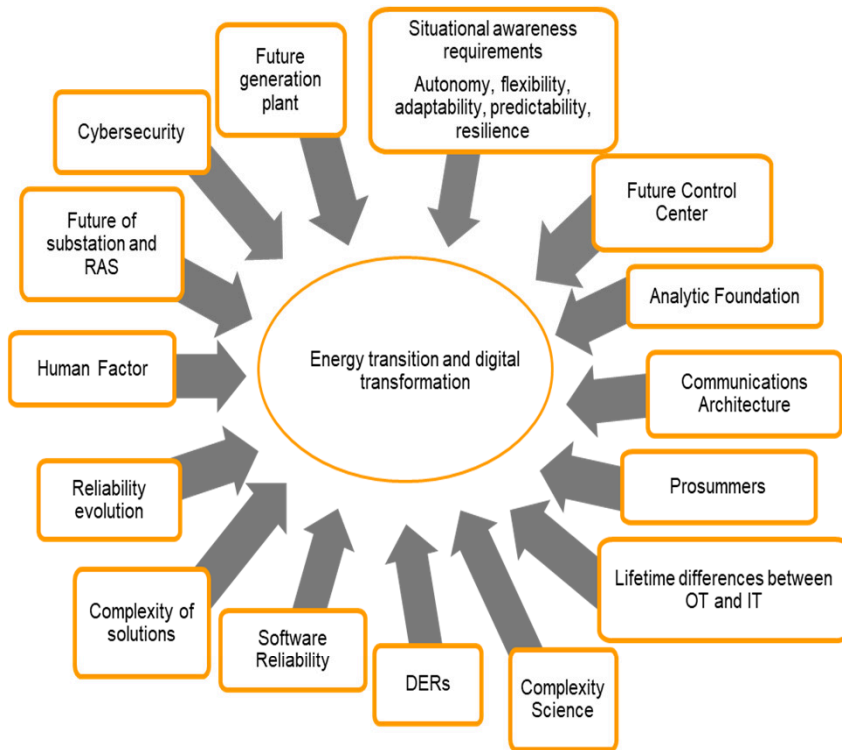


## TECHNOLOGICAL ADVANCES

### Key Trends

Smart Networks, Digital Transformations, OT / IT / Telecom / Security Convergence, Smart Cities, 4th Industrial Revolution (IoT, Big Data, Artificial Intelligence, Imaging, etc.)

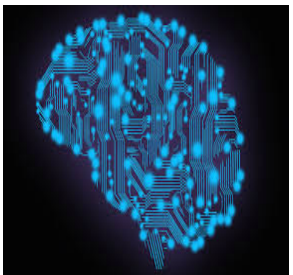
# Reasons for this visionary group



# Reasons for this visionary group - Towards Situational Awareness of Operation



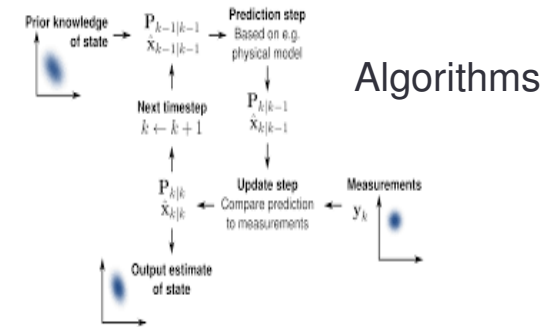
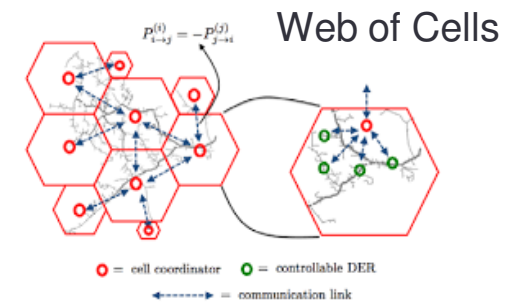
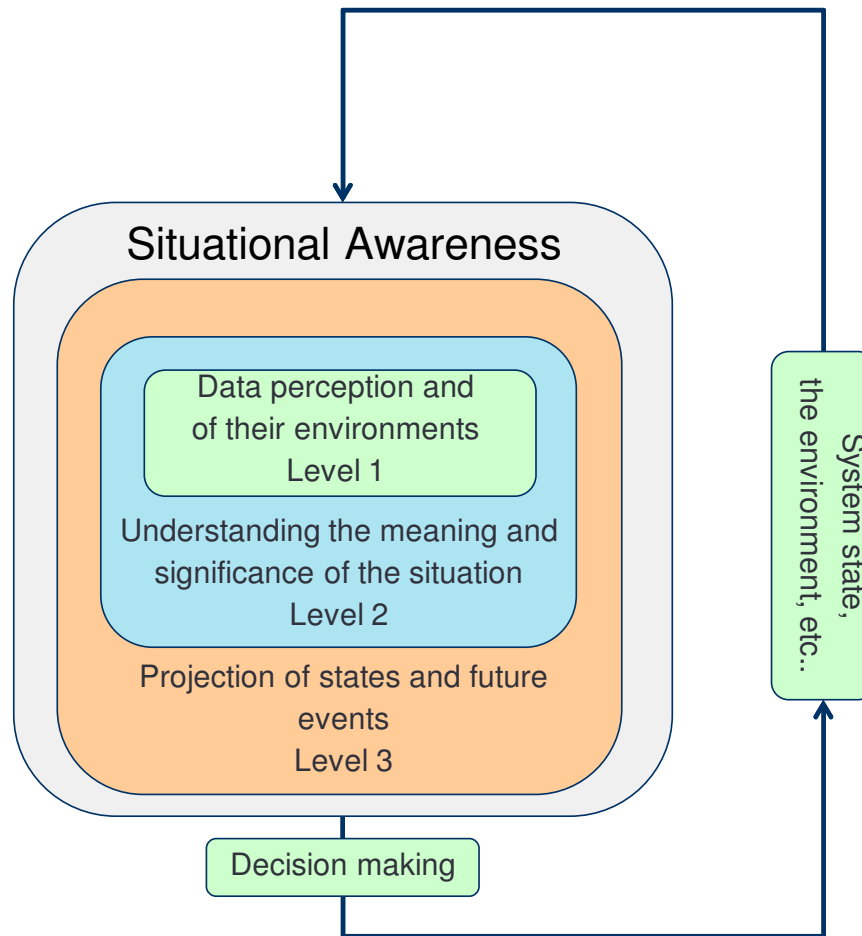
IoT



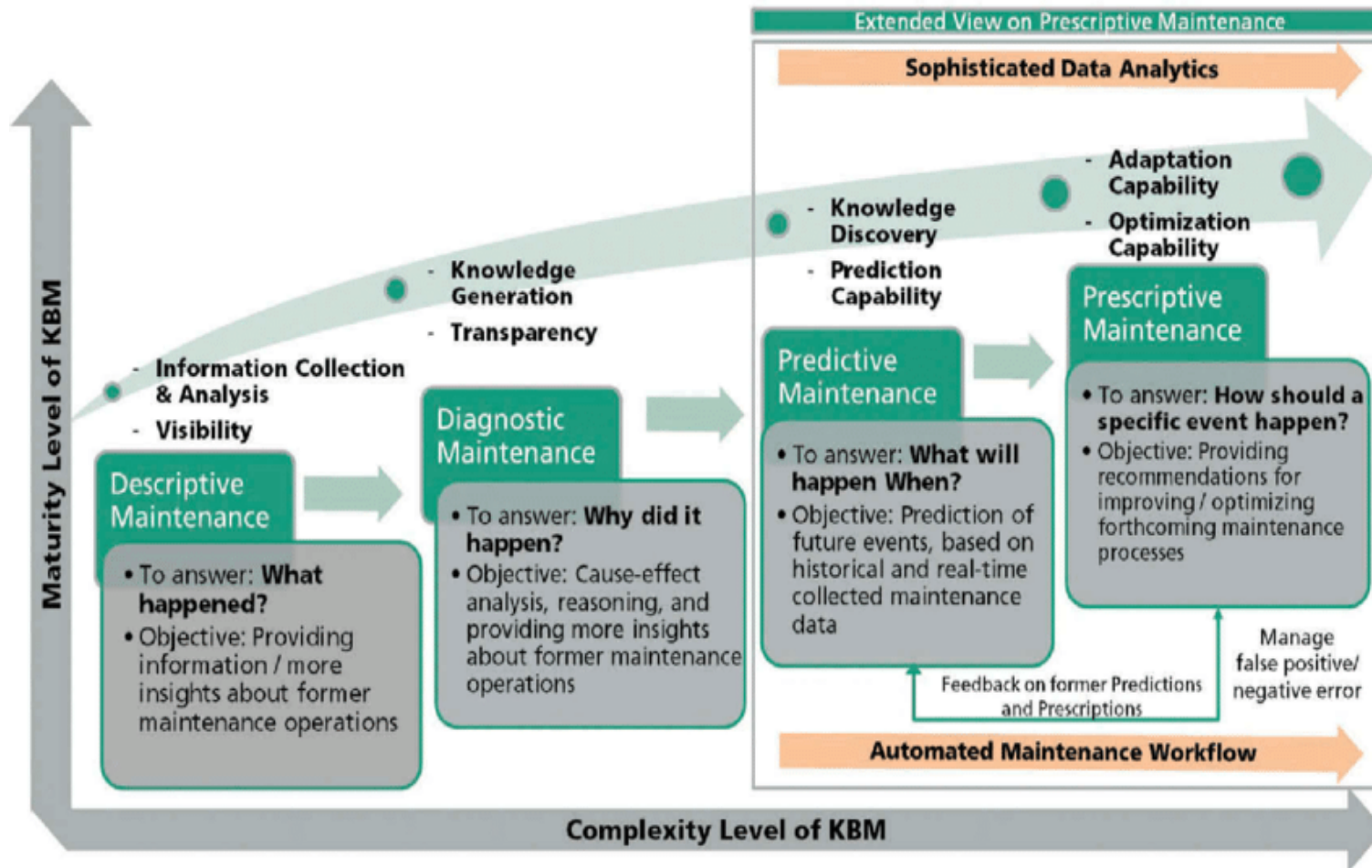
AI



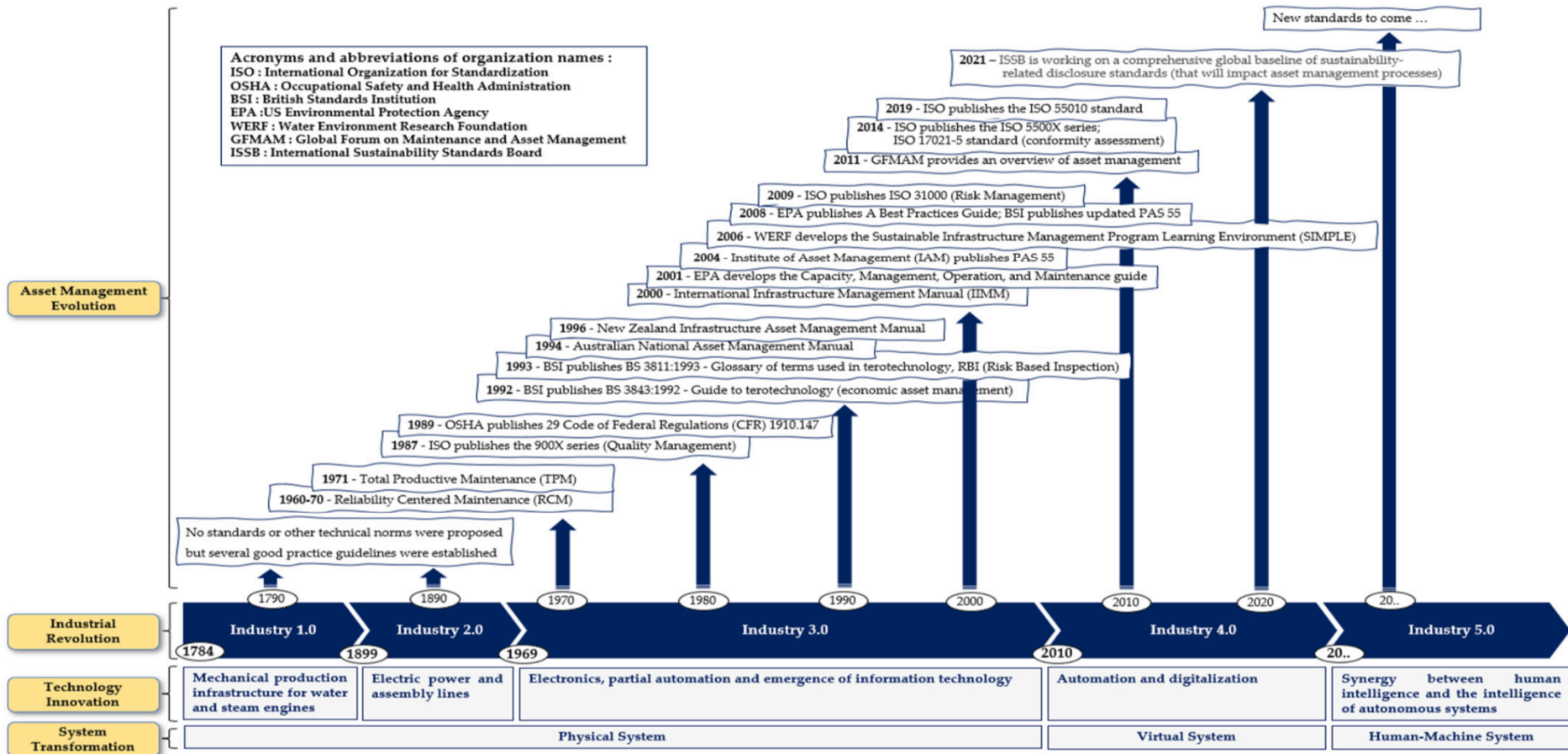
Digital Twin



## Reasons for this visionary group - Towards Prescriptive Maintenance



# Reasons for this visionary group - Evolution of the principal standards and technical standards of the asset management process



**How do we “catch” and integrate all those current and upcoming changes, needs, trends and challenges to build the Future Energy System (end-to-end perspective) ?**

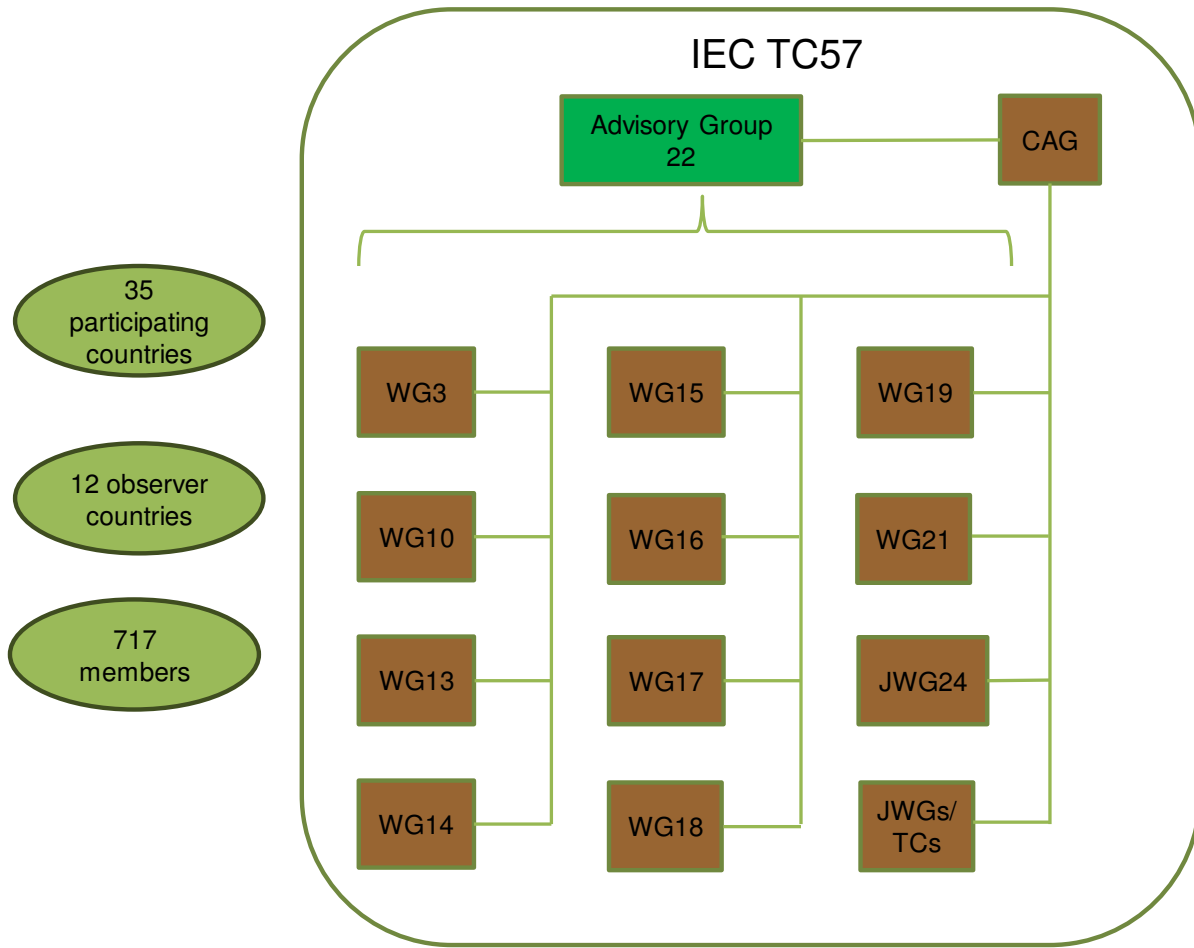


# History

- Proposal for the creation of an Advisory Group has been presented at the TC 57 plenary meeting held in Shanghai on October 23-24<sup>th</sup> 2019 by the NC CA.
  - **DECISION TC 57 2019/10:** Questionnaire to be sent to P-members for approval of new Advisory Group on strategic developments in technological, operational and organizational matters for TC 57
- 57/2212/RQ of April 3<sup>rd</sup> 2020 : Approval of the creation
- From May to November 2020
  - Elaboration of the TFs
  - Demonstration of the constraint imposed by the representative limitation
- TC 57 November Plenary session of 2020 :
  - Official presentation of AG22 structure
  - Approval to launch a new call for member without any limitation



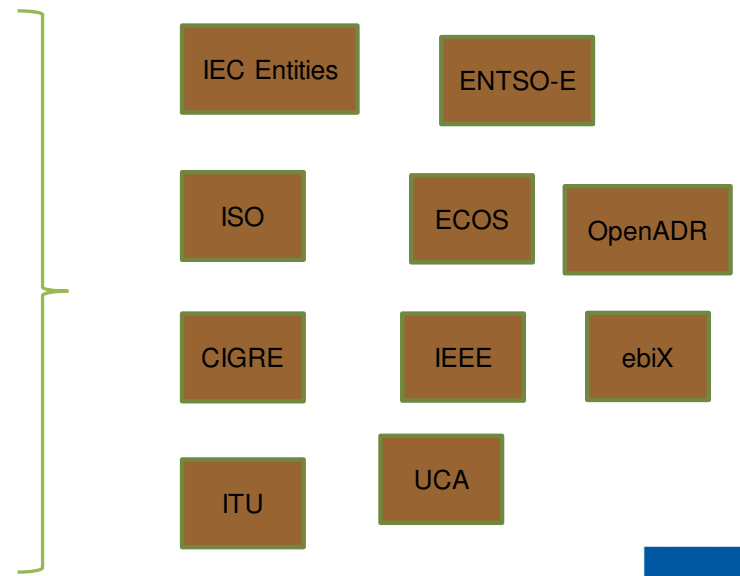
# IEC TC57 Structure



- 35 participating countries
- 12 observer countries
- 717 members

*Scope : Power systems management and associated information exchange, from generation to DERs,*

## External Liaisons

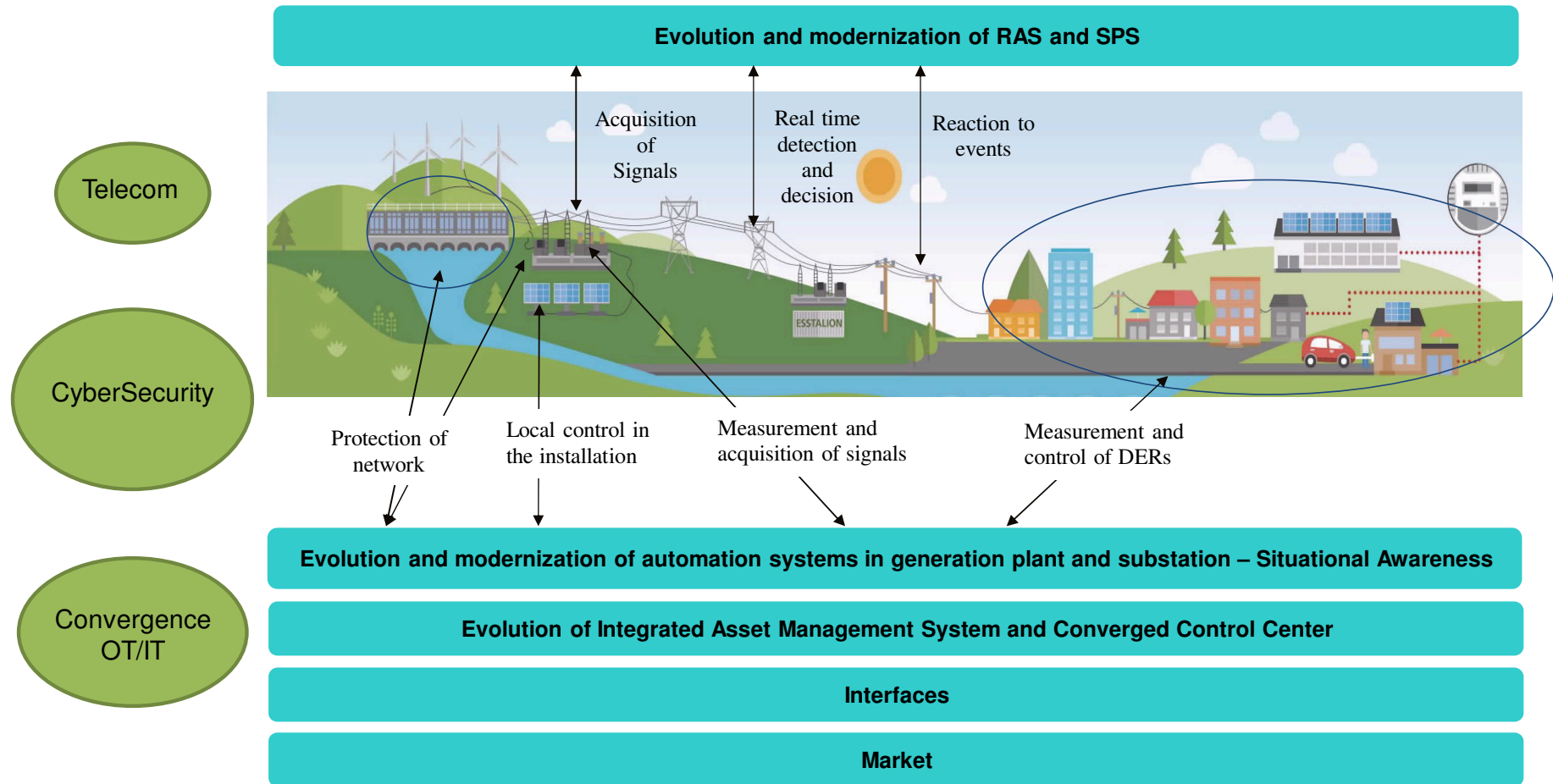


# Mission of AG22

- Advise TC57 management and provide recommendations to improve the efficiency in the development of TC57 standards
- Work on global topics in a specified timeframe and draft recommendations
- Facilitate the use and implementation of TC57 standards by the industry
- Adapt the internal processes and organization of TC57 to an increasingly digital economy and connected world
- Consolidate TC57 needs regarding the digital transformation of IEC
- Become a visible TC57 point of contact both within and beyond IEC (other SDOs)
- Look beyond TC57 and seek to improve external interfaces
- Prepare for the future and have a global and transversal TC57 viewpoint on the future



# Scope



# Task Forces

## **TASK FORCE 1: “Define and propose rules, processes and guides on the production and use of the specifications and standards relying on TC57 core standards (i.e. 61850, CIM, 62351), including adequate governance”**

- Draft guides to help ensure homogeneous development (IEC 61850-1-2), use, maintenance and extensions of the specifications and standards relying on TC57 core standards, and simplify the process without losing the desired goal.
- Promote and facilitate the use of the specifications and standards relying on TC57 core standards by increasing consistency between the different WGs and ensuring consistency with the new digital processes and tools as part of the digital transformation of IEC.
- Deploy the common rules and processes to develop and maintain the specifications and standards relying on TC57 core standards.
- Identify the appropriate global TC57 governance with external TCs, SDOs and Consortia.

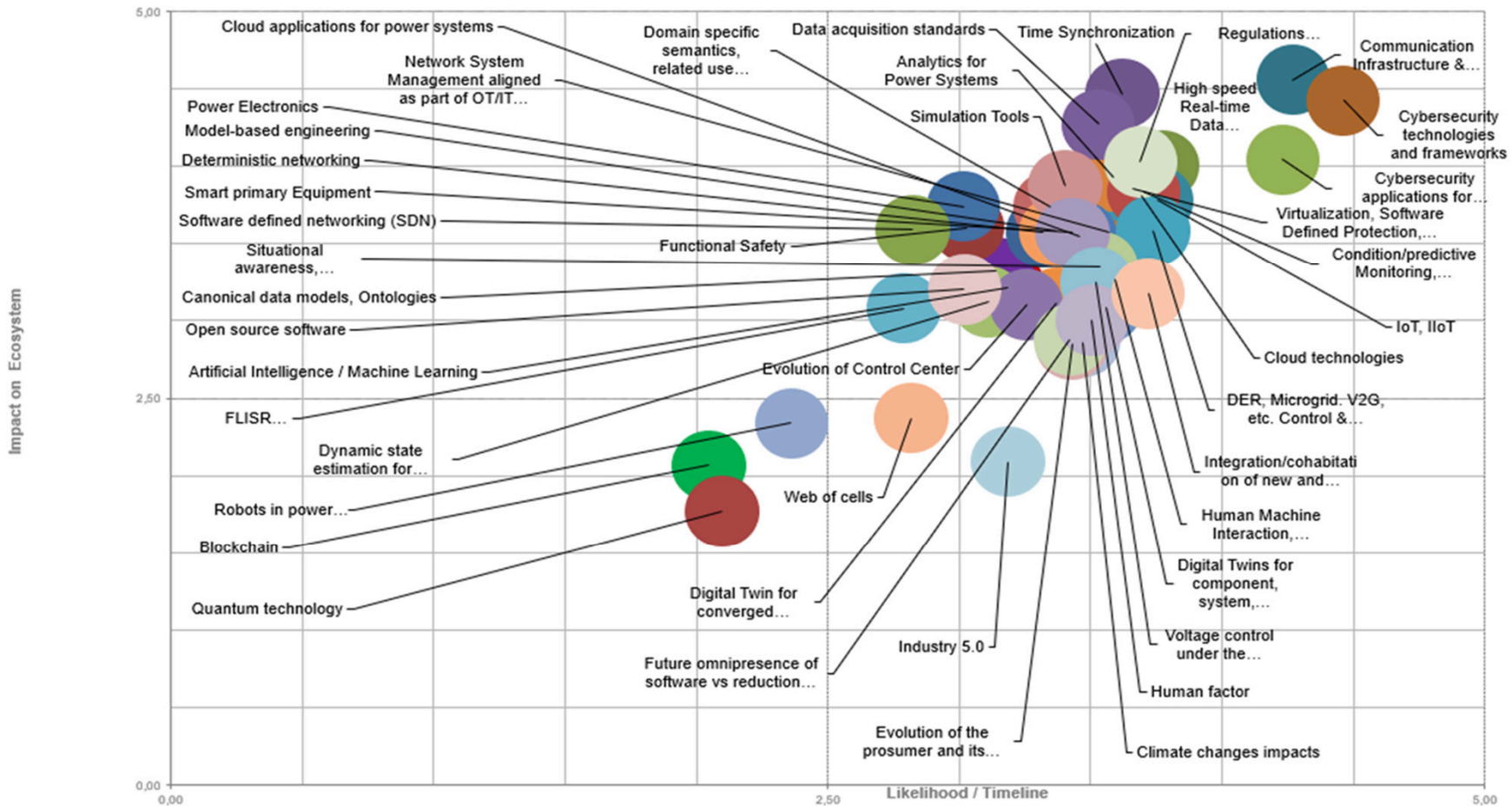
## **TASK FORCE 2: “Promote market acceptance of the specifications and standards relying on TC57 core standards (i.e. 61850, CIM, 62351) by improving external interfaces”**

- Legitimize TC57 as a responsible entity to authorize or not any extension of the specifications and standards relying on TC57 core standards (IEC and elsewhere).
- Preserve consistency of the specifications and standards relying on TC57 core standards and extensions within IEC and encourage collaboration with external SDOs.
- Promote TC57 standards globally in coordination with IEC marketing and sales teams.
- Develop TC57 website community and content management in close link with TC57 working groups.
- Consolidate end user feedback regarding TC57 standards and identify new implementation trends.

## **TASK FORCE 3: “Provide an end-to-end TC57 vision on future applications for power systems”**

- Provide an end-to-end TC57 vision on the future applications for power systems, with high level description of requirements (e.g.: IT/OT, telecom, cybersecurity, performance, etc.), including the evolution of regulatory rules.
- Produce clear insights of the changing orientations, needs and requirements that industries are looking for and will deploy in their OT, Telecom and Cybersecurity roadmaps, to face the new upcoming energy market.
- Support WG19 in its “long term” interoperability and architecture activities, with a collection of use cases and recommendations of future applications.
- Apply to Generation, Transmission, Distribution, DERs, microgrids, etc. and their associated control center.

# Example of work – 2023 Survey results



## 23 members

Member	Mr Alexander P Apostolov	US
Member	Mr Thierry Coste	FR
Member	Mrs Aurélie Dehouck-Neveu	FR
Member	Mrs Giovanna Dondossola	IT
Member	Mr Herbert Falk	US
Member	Mr Mario Jardim	FR
Member	Mr Anders Johnsson	SE
Member	Mr Innocent Kamwa	CA
Member	Mr. Jaroslaw Kussyk	AT
Member	Mr Eric Lambert	FR
Member	Mrs Qin Li	CN
Member	Mr Paul Myrda	US
Member	Mr Gilles Nativel	FR
Member	Mr Tetsuo Otani	JP
Member	Mr Gian Luigi Pagni	IT
Convenor	Mr Jean Raymond	CA
Member	Mr Thomas Rudolph	DE
Member	Mr Yoshizumi Serizawa	JP
Member	Mr Angel Silos	ES
Member	Mr Florin Stelea	SE
Member	Mr Dustin Tessier	CA
Observer	Mr Andrew West	AU
Member	Mr Joeman Xavier	US

# Interest ...

- To join and be active in AG22 ?
  - Let me know and
  - Submit your request to your respective IEC National Committee.



**THANK YOU FOR  
ATTENTION!**



**Have a nice day!!!**

# Task Force 1 - Details

Guidelines on developing, extending, and maintaining TC57 standards should be developed:

- State visibly and strongly (“Market”) that IEC 61850-1-2 is required to be followed by all groups developing IEC 61850 models.
- Based on IEC 61850-1-2, ensure these IEC 61850 domain groups are familiar with these guidelines.
- Ensure the code component requirements and capabilities are understood throughout the IEC 61850 domain.
- Develop the digital material (tutorials, templates, etc.) and/or tools necessary for their drafting and maintenance (UML tools, etc.)
- Set up the associated governance to ensure that the above is known and applied.
- Extend the Tissue process to all IEC 61850 domain groups for their use and to other IEC digital standards.
- Create a harmonization between IEC 61850-1-2, TISSUE process and Database Standards Review.

Digital Transformation support:

- Consolidate and propose new requirements for Digital Transformation of IEC, based on TC57 standards.
- Establish an IEC internal community around TC57 core standards.
- Include all the code components, tools and Legal issues (copyright, IP licensing) under IEC responsibilities.

TC57 internal governance:

- Notify users of new publications and problem solving (TISSUES)
- Guarantee their maintenance.
- Address the need to have a complete, updated and real-time list of standards, accessible through the Web with functional and relevant tools.
- Establish the roles and responsibilities to implement 61850 consulting services with other TCs.

Additional issues:

- Review the current status of relevant TCs works to identify any duplication or potential inconsistencies.
- Define a structure for th1818e coordination of cross TCs/WGs works.

## Application of AGILE Spirit for the smooth running of the activities

- Determine what are the most important actions in the scope and prioritize what can be done as quickly as possible with the least effort.
- Periodically question actions and reassess priorities.

# Task Force 2 - Details

Propose and apply a marketing plan to the central office in order to:

- State visibly and strongly (“Market”) that IEC 61850-1-2 is required to be followed by all groups developing IEC 61850 models.
- Ensure these IEC 61850 domain groups are familiar with these guidelines.
- Develop a website.
- Send news and notifications on new deliverables.
- Have a user portfolio.
- Promote participation in smart grid forums, etc.
- Develop educational material or identify entities which are proposing them.

Digital Transformation support

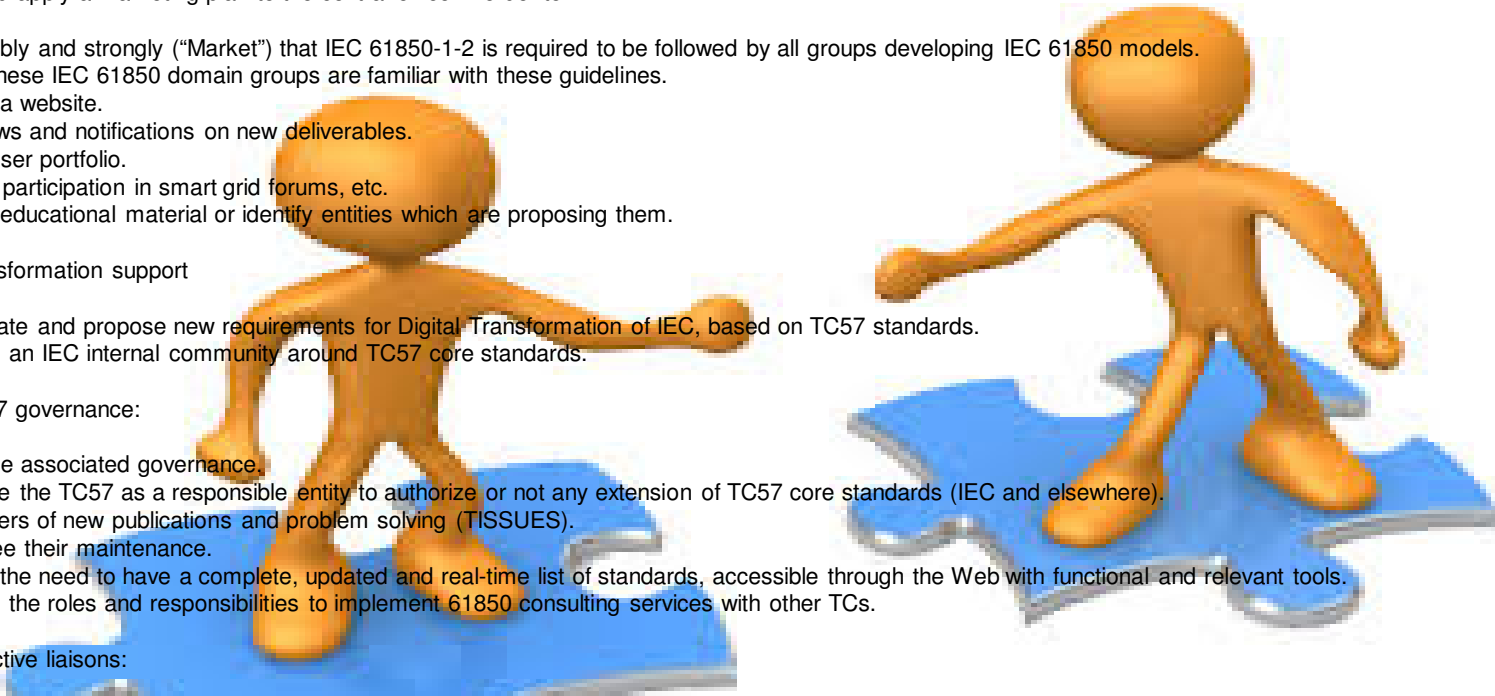
- Consolidate and propose new requirements for Digital Transformation of IEC, based on TC57 standards.
- Establish an IEC internal community around TC57 core standards.

Global TC57 governance:

- Set up the associated governance.
- Legitimize the TC57 as a responsible entity to authorize or not any extension of TC57 core standards (IEC and elsewhere).
- Notify users of new publications and problem solving (TISSUES).
- Guarantee their maintenance.
- Address the need to have a complete, updated and real-time list of standards, accessible through the Web with functional and relevant tools.
- Establish the roles and responsibilities to implement 61850 consulting services with other TCs.

Establish active liaisons:

- Establish an IEC internal community around TC57 core standards.
- Ensure that the 61850 UML data models and CIM UML contextual model are easily accessible (internal and external to IEC).
- Establish the roles and responsibilities to implement 61850 consulting services with other TCs, SDOs and Consortia (Training, Joint works).
- Survey the current internal and external standardization liaisons, analyse the merits of this link and recommend the next steps.
- Survey the internal and external standardization landscape and identify IEC TCs, key Standards Development Organizations (SDOs) and Consortia with which AG22 should be monitoring and/or cooperating with.
- Put in place liaisons.



# Task Force 3 - Details

- Compile and analyse all the trends, new needs, technologies and regulations that could be applied to the future.
- Monitor new market trends and assess their impact on TC57.
- Support the TC57 WG19 in the interoperability and architecture activities consequent to the promoted trends, technologies and regulations.
- Make assessment between the vision and the current TC57 standards.
- To the TC57 WGs,
  - Propose new works and orientations based on this assessment to guide the development of their future standards.
  - Evaluate the impact of these trends, new technologies and regulations on current and foreseen IEC work, in particular on systems related activities, and engage with them by raising awareness and making technical recommendations.
- Provide a forum for discussion with TC57 WGs.
- Recommend future directions which could be addressed to the TC57 CAG and the SMB.
- Work closely with AG22 TF2 to define the needs and requirements for liaisons.
- Contribute to the implementation of the IEC digital transformation.

## Short Term Activities to reach the target (Vision)

- Develop a vision (use case, etc.) - deliverable 1 in 2021
- Define the needs to achieve this vision - deliverable 2 in 2022.
- Define standardization needs and roadmap – deliverable 3 in 2022.
- Coordinate continuously with SyC SE.

## Mid and long Terms Activities to reach the target (Vision)

- Update continuously the Vision.
- Develop by deliverable each item of the Vision and establish the links between them.
- Coordinate continuously with SyC SE.