INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

Karlsruhe Institute of Technology

Nanotechnology Standardization in IEC/TC 113

WebEx Webinar, 2013-12-05

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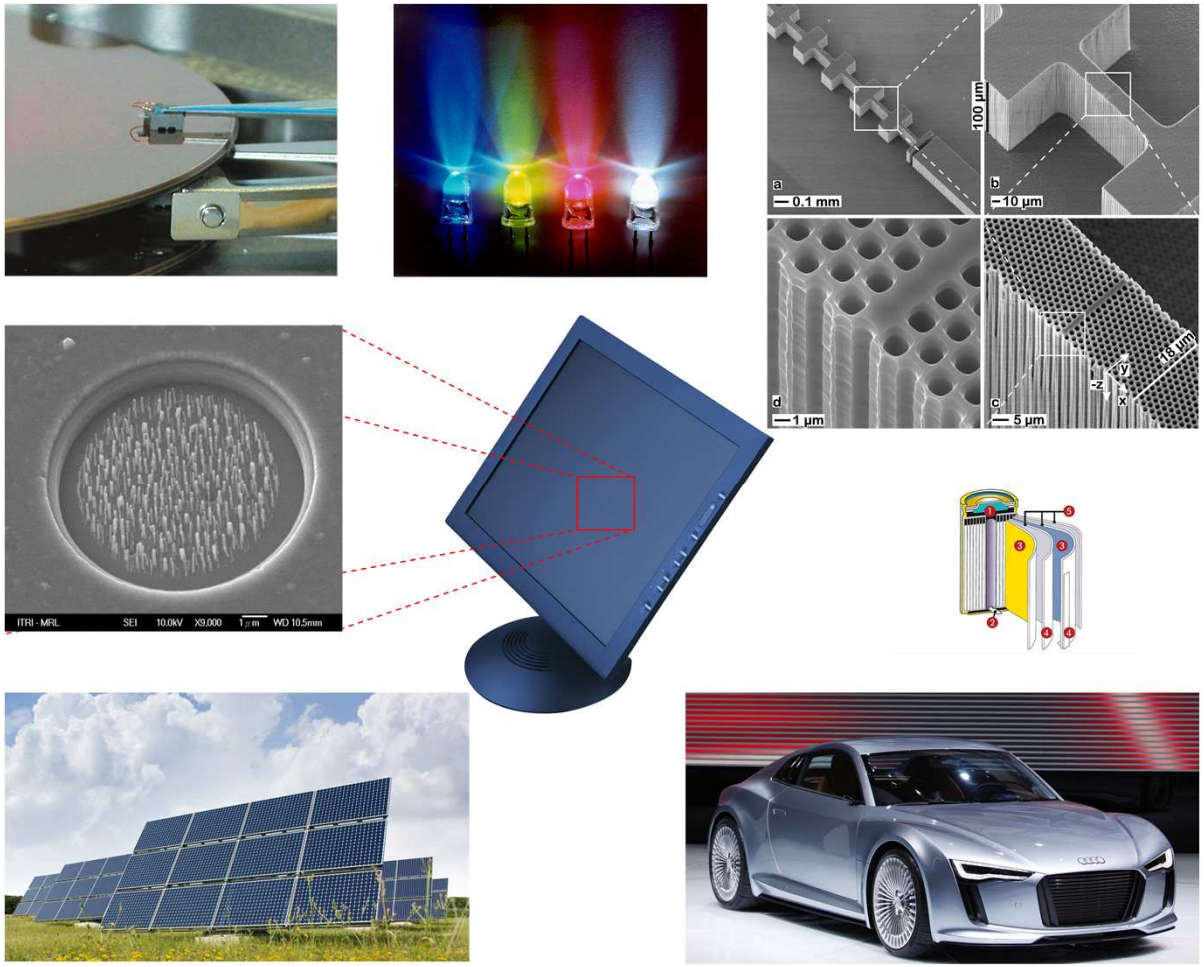
Secretary IEC/TC 113
Chairman DKE/K 141 (Nanotechnologie)
Vice-Chairman GUK 682.1 (Gedruckte Elektronik)
Liaison Officer IEC/TC 119 (Printed electronics)
Liaison Officer ISO/TC 229 (Nanotechnologies)
IEC/MSB/SWG 4 (Technology and Market Watch)
DIN/SO-FIE (Präsidialausschuss Forschung, Innovation und Entwicklung)

IEC/TC 113: NANOTECHNOLOGY STANDARDIZATION FOR ELECTRICAL AND ELECTRONIC PRODUCTS AND SYSTEMS

Outline

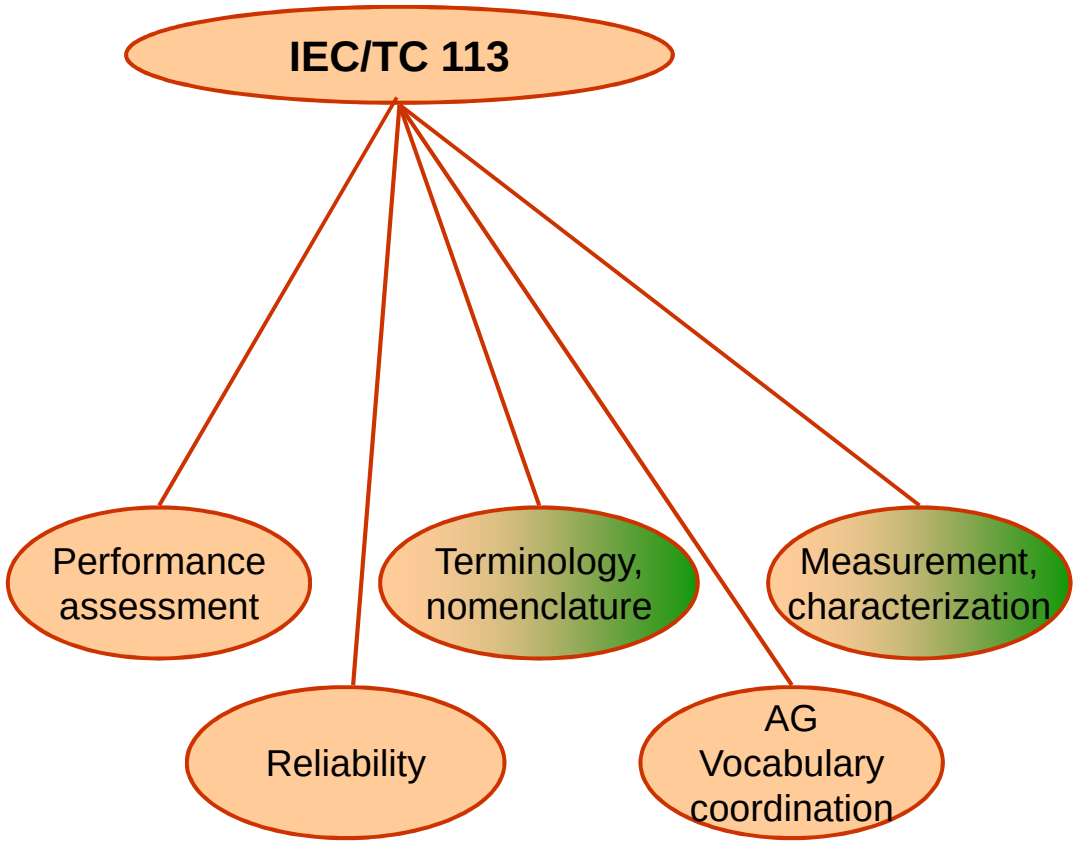
- Standardization regarding nano-enabled products in IEC/TC 113
- Organizational structure (IEC/TC 113 and IEC/TC 119)
- Market Watch and Technology Prioritization
- Example: Organic and Large Area Electronics
- The Nanostandards-Wiki as a knowledge management tool
- Conclusions

Nano-enabled electrotechnical products (IEC/TC 113)



Nano-enabled electrotechnical product: “electrotechnical product exhibiting function or performance not possible without the application of nanoscience”

Overview Nano-Standardization in IEC and ISO



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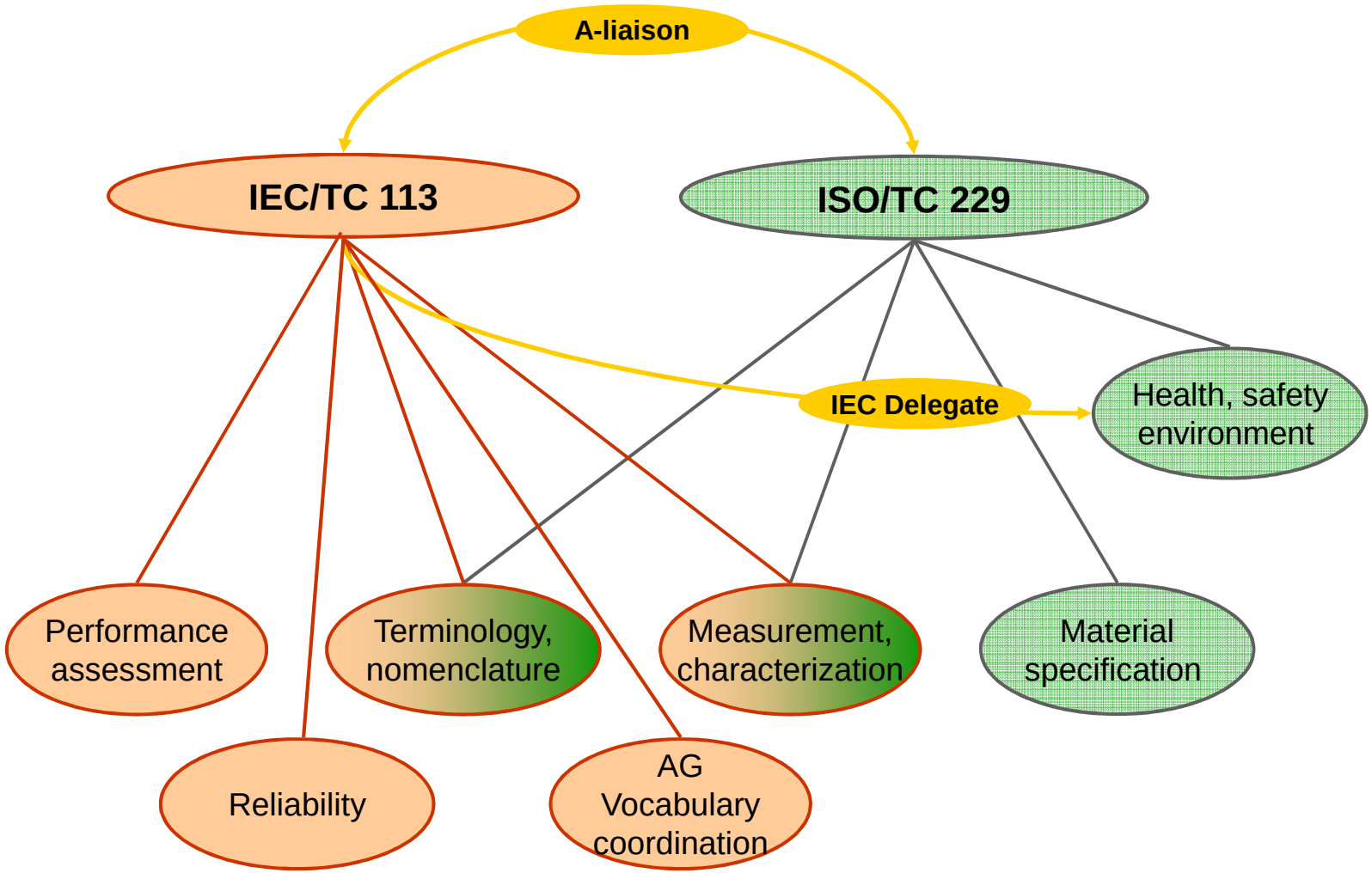

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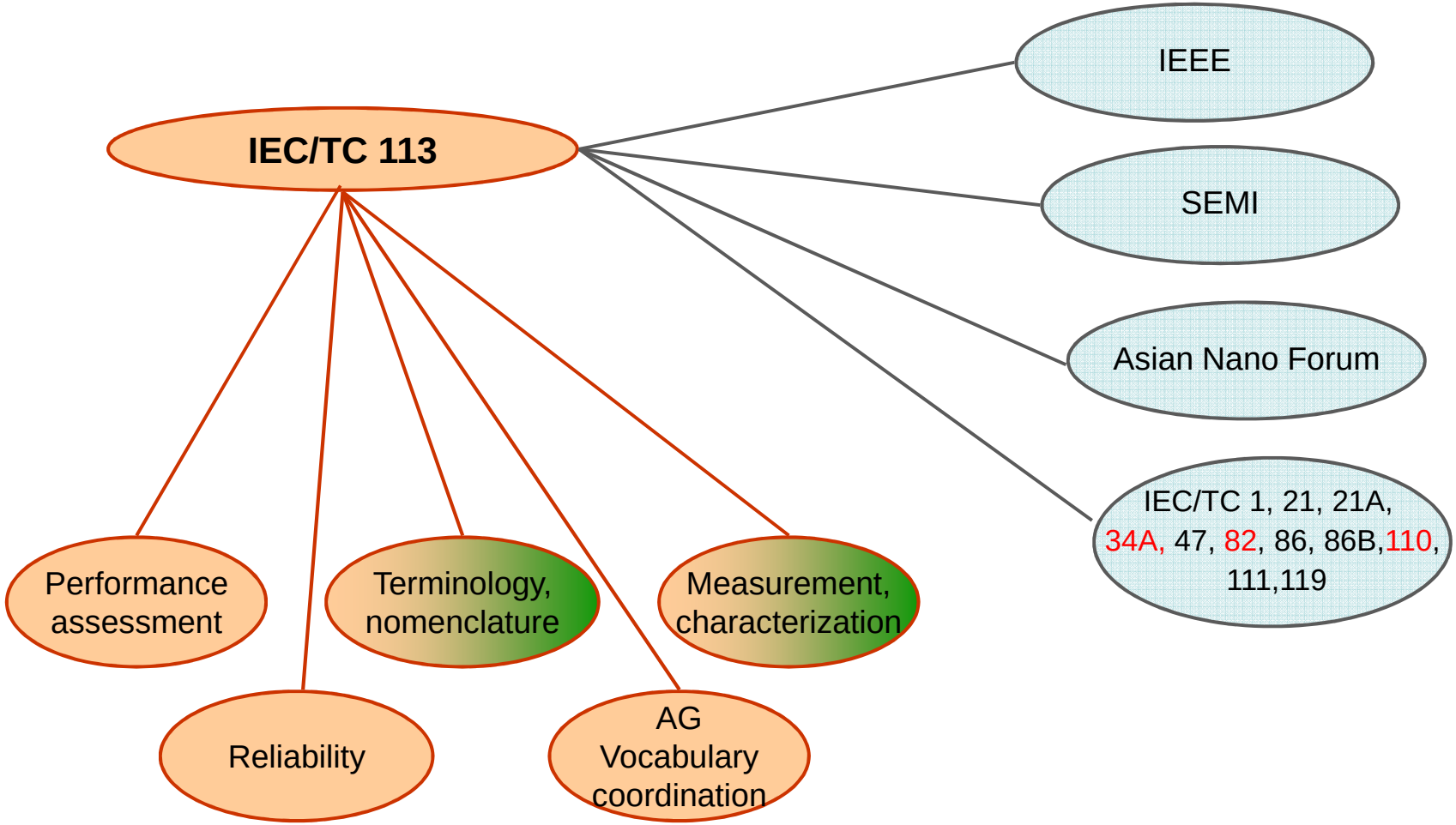
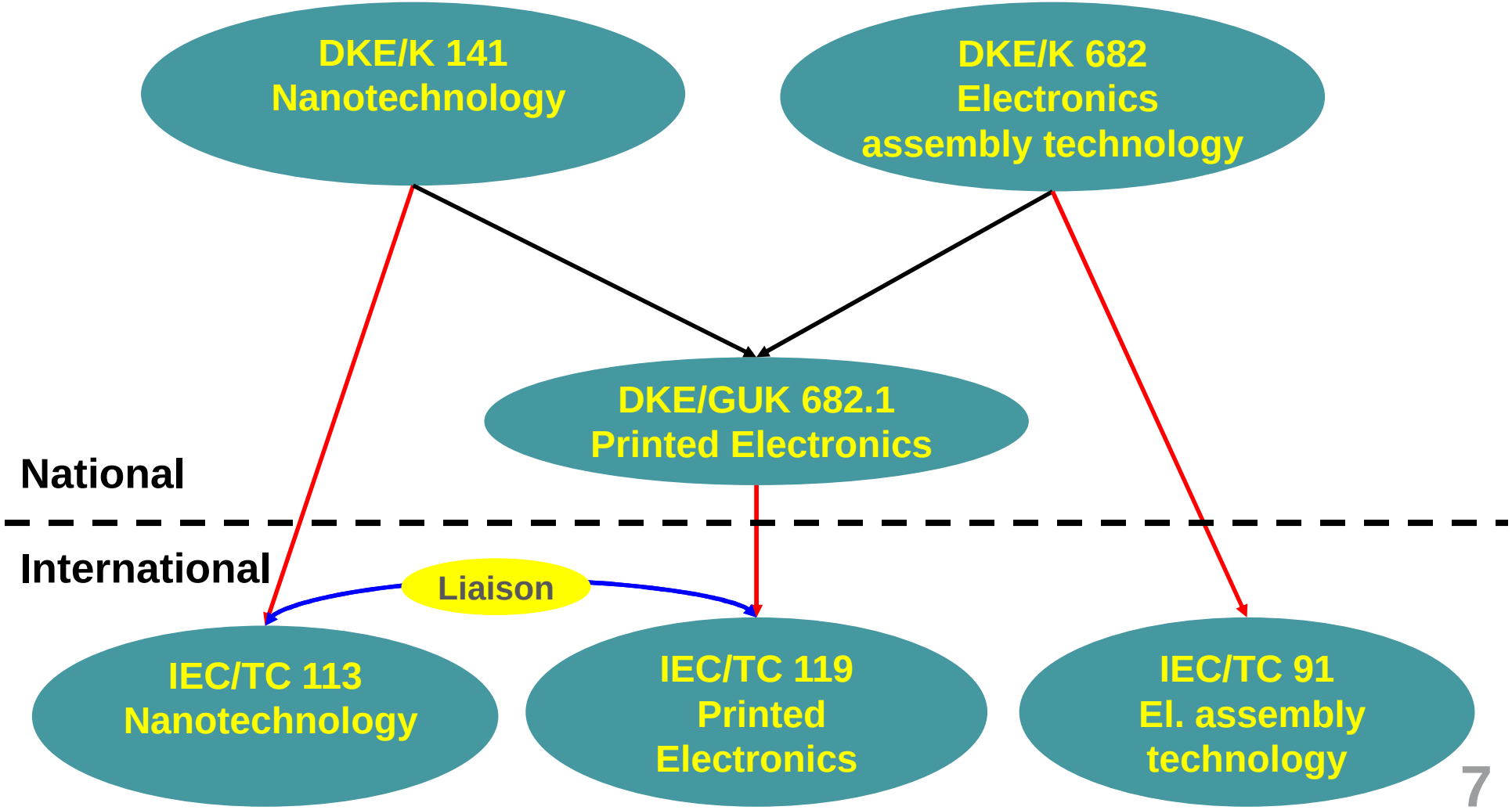
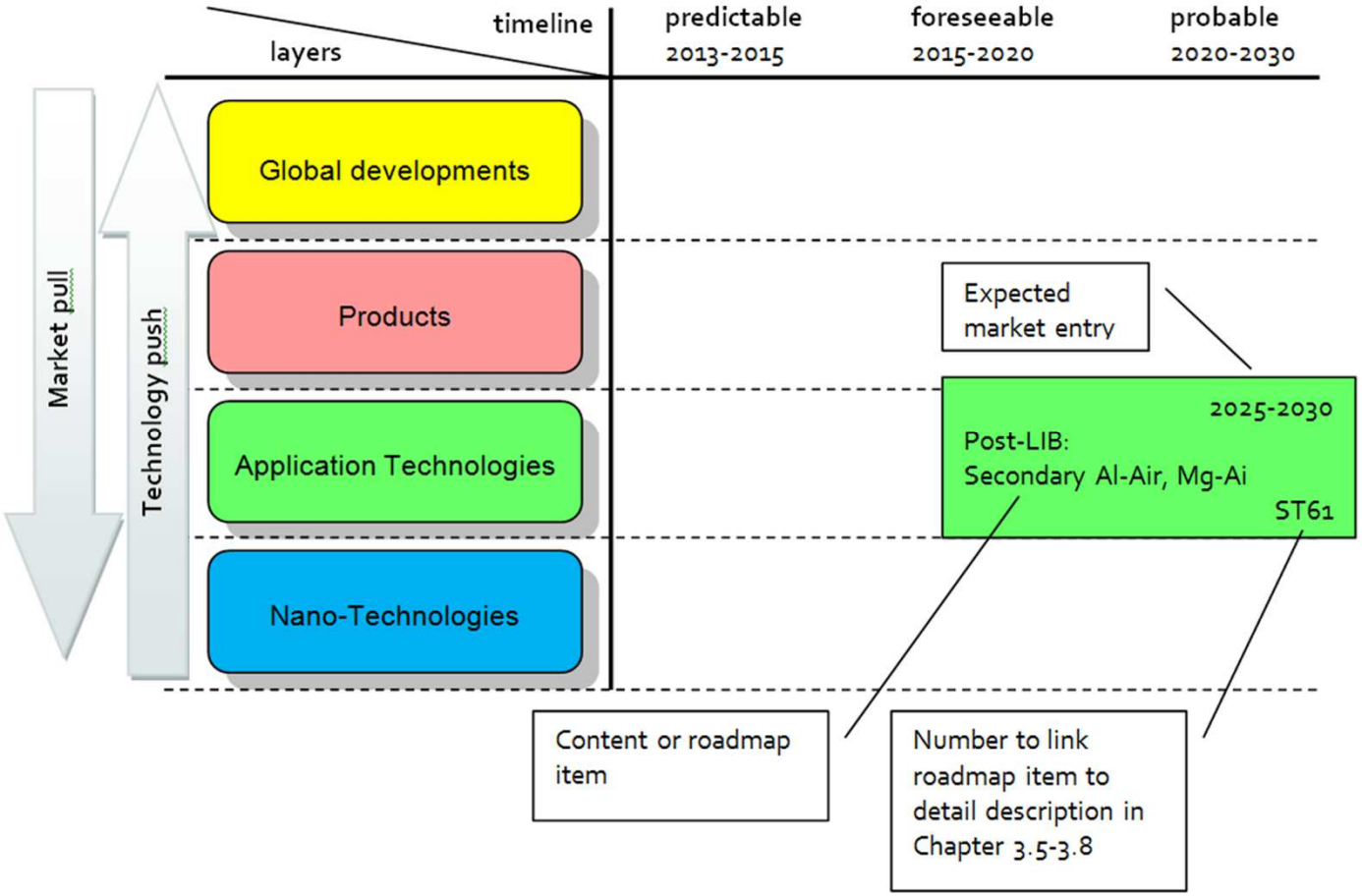
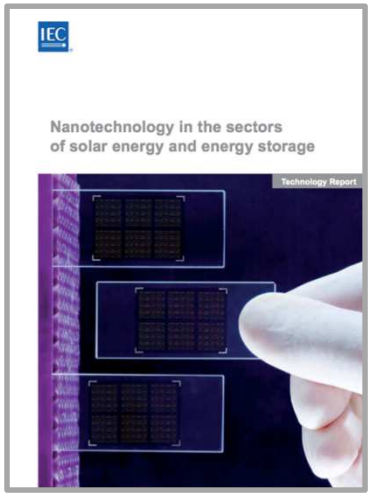


German Mirror Committees to TC 113 and TC 119

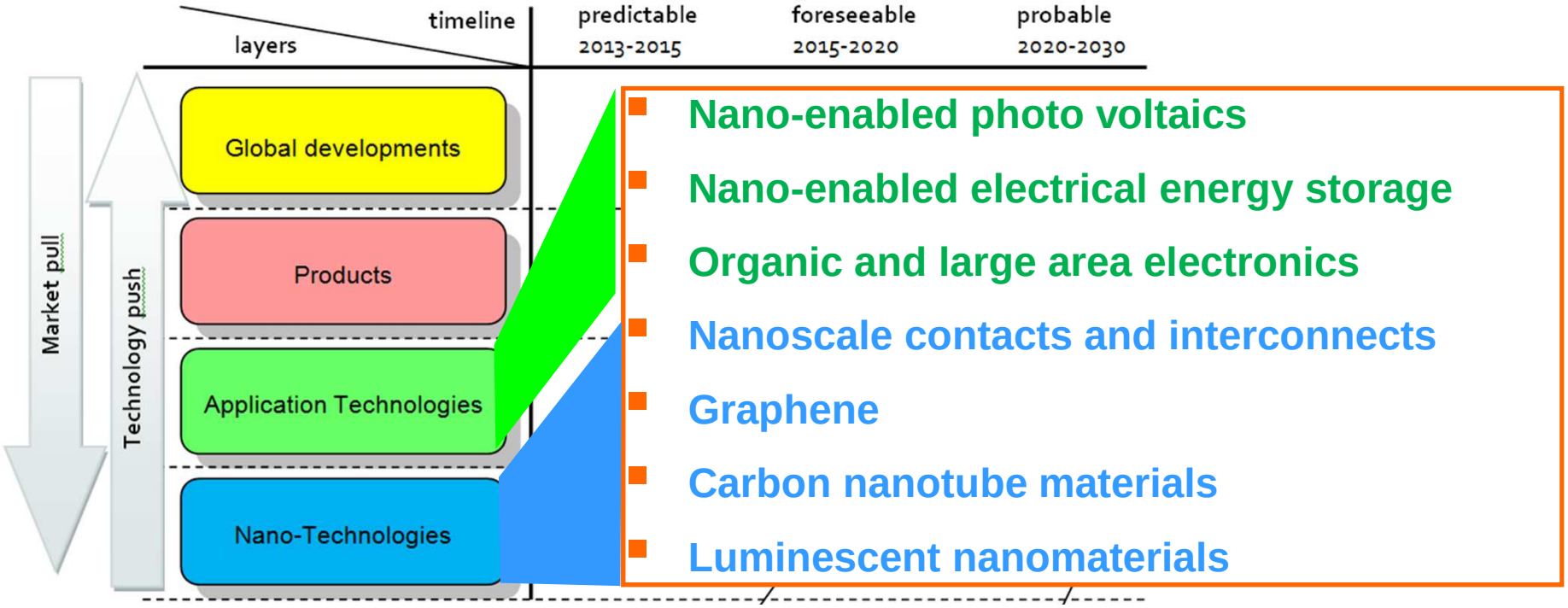


Market Watch and Technology Prioritization Process
MSB/SWG 4: Pilot Project Nanotechnology

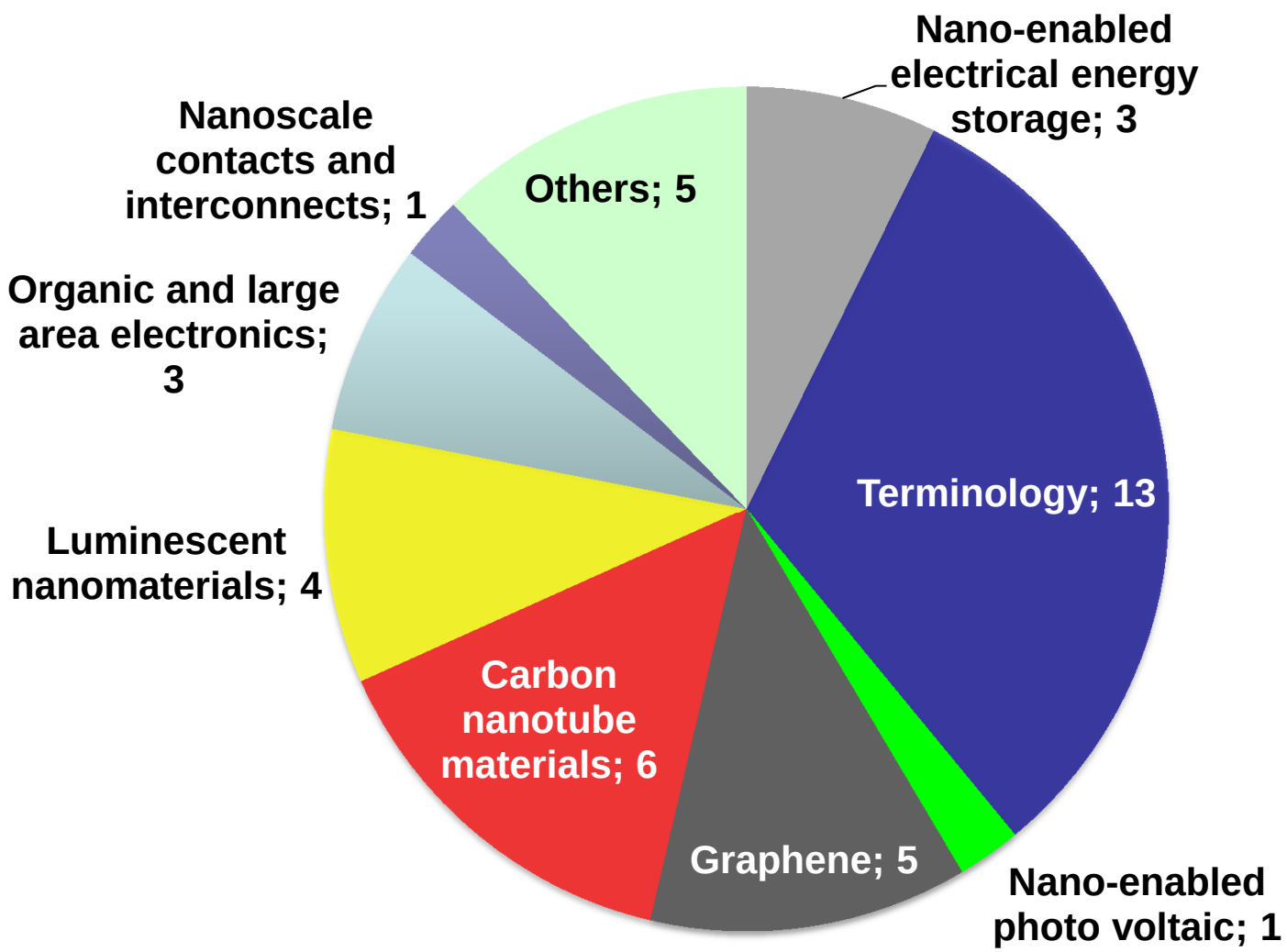




Market Watch and Technology Prioritization Process
MSB/SWG 4: Pilot Project Nanotechnology



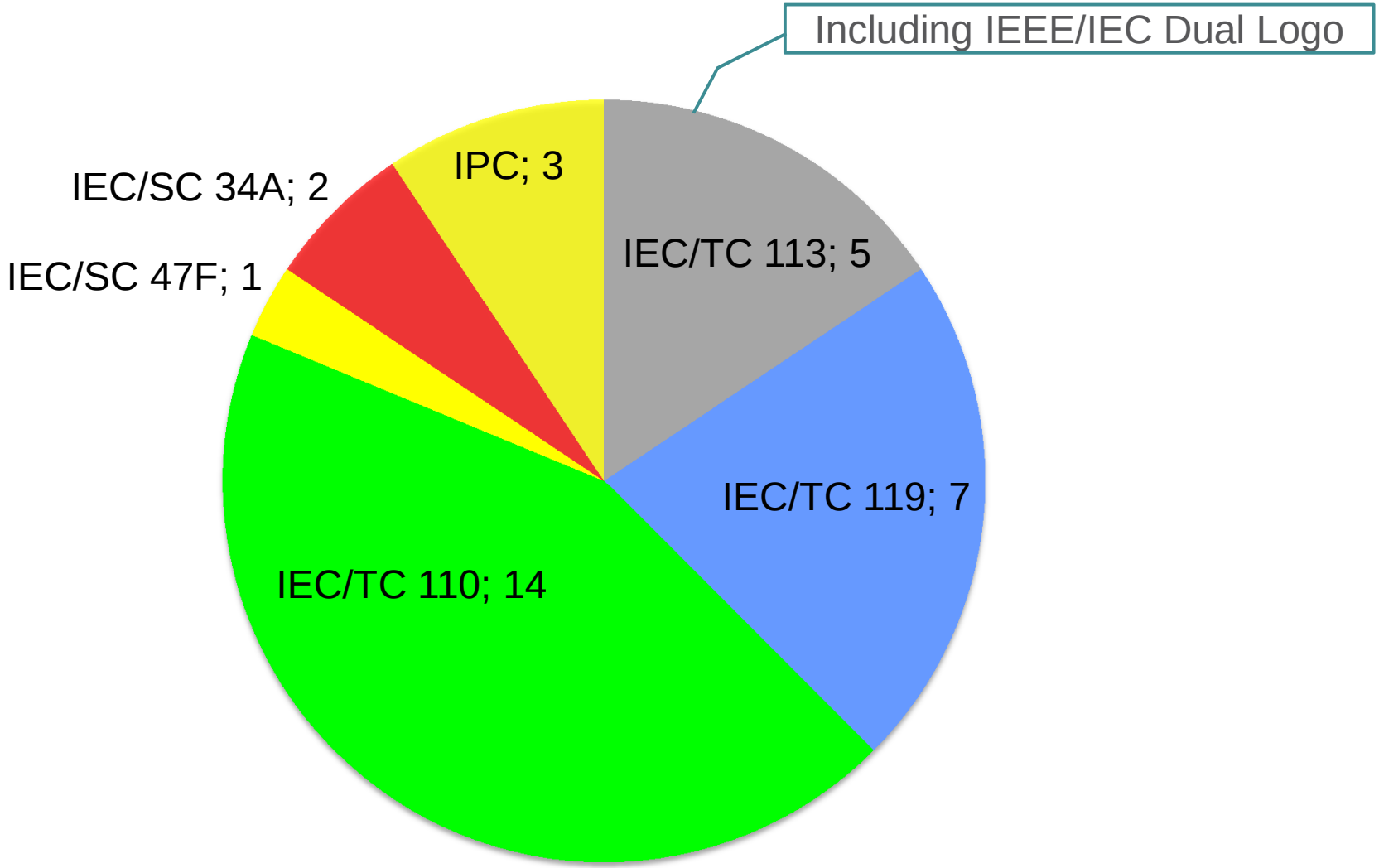
Standardization projects versus technology



Example: Graphene Projects

- **IEC/TS 62565-3-1: Nanomanufacturing - Material specifications – Part 3-1: Graphene - Blank detail specification**
- **IEC/TS 62565-3-2: Nanomanufacturing - Material specifications – Part 3-2: Graphene - Detail specification for nano-ink**
- **IEC/PWI 62607-6-1: Nanomanufacturing - Key control characteristics – Part 6-1: Graphene - Electrical characterization**
- **IEC/PWI 62607-6-2: Nanomanufacturing - Key control characteristics – Part 6-2: Graphene - Evaluation of the number of layers of graphene**
- **IEC/PWI 62607-6-3: Nanomanufacturing - Key control characteristics – Part 6-3: Graphene - Evaluation of the defect level in the graphene layer**

Standards related to organic and large area electronics



Source Nanostandards-Wiki

The Nanostandards-Wiki
- a knowledge management tool

Nanostandards Wiki

Technology Profiles

Terms & Definitions

Standards

www.nanostandards-wiki.com

Conclusions

- **IEC/TC 113 is a horizontal committee interacting with other IEC and ISO committees**
- **Concentration is on (nano-)materials and (nano-) processes supporting the More than Moore strategy**
- **IEC/TC 113 standards shall support key technologies for innovative products**
- **IEC/TC 113 suggest to continue the Market Watch and Technology Prioritization Process**
- **Note the Nanostandards-Wiki as a knowledge management tool for standard development**