# ISO 30.134 AND EN 50.600 – MINEFIELDS OR VALUABLE STANDARDS?

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# CHALLENGE 1
## WHY DO WE NEED STANDARDS?

# IoT Challenge – Energy consumption:

- Global warming is a fact (Source: NASA before Trump)
- IT and telecommunication will be biggest energy consumers in few years
- IoT explodes amount of data, IT waste and energy
- Data centers will be power mills

## Energy efficient IT:

- EPEAT devices, no cooling demand
- Passive free cooling
- Heat reusage in district heating
- PUE, ERF, REF measure & control
- Automation – No waste (Lean)



For centuries, atmospheric carbon dioxide had never been above this line

current level

1950 level

carbon dioxide level (parts per million)

years before today (0 = 1950)

# WHAT IF I DO NOT CARE?
## IS IT A CRIME?

- **Local vendor specific solutions tend to disappear from market in long run**
  - **Being separate island in global data center market would leave out all major customers**
  - **Developing a closed solution is an investment risk, but gives possibility to lock customer**
- **Customers can not choose best data center from market**
- **Best data centers can not show their advantages**
- **Benchmarking is not possible**
- **Industrial solutions can not be standard: tailoring costs**

# ISO 30.131 – 30.134 SERIES

- ISO 30131 Information technology -- Data centres -- Taxonomy and maturity model (Draft)

- ISO 30132-2 Information technology -- Information technology sustainability -- Energy efficient computing models -- Part 2: Application guidelines of energy efficient evaluation methodology (Draft)

- ISO 30132-3 Information technology -- Information technology sustainability -- Energy efficient computing models -- Part 3: Development guidelines of energy efficiency evaluation

- ISO 30133 Information technology -- Data centres -- Guidelines for resource efficient data centres (closed voting)

- **ISO 30134-1:2016 Information technology -- Data centres -- Key performance indicators -- Part 1: Overview and general requirements (Ready)**

- **ISO 30134-2:2016 Information technology -- Data centres -- Key performance indicators -- Part 2: Power usage effectiveness (PUE) (Ready)**

- **ISO 30134-3:2016 Information technology -- Data centres -- Key performance indicators -- Part 3: Renewable energy factor (REF) (Ready)**

- ISO 30134-4 Information technology -- Data centres -- Key performance indicators -- Part 4: IT Equipment Energy Efficiency for servers (ITEEsv) (closed voting)

- ISO 30134-5 Information technology -- Data centres -- Key performance indicators -- Part 5: IT equipment utilization for servers (ITEUsv) (closed voting)

- ISO 30134-6 Information technology -- Data centers -- Key performance indicators -- Part 6: Energy Reuse Factor -- ERF (draft)

ISO 30.134 - WASHINGTON MEETING 2014-11

# EN50.600 – EUROPEAN STANDARD

- Standard is now mostly ready (-1 to -6)

- Already applied at operations at several IT service providers DCs

- Data center desing can be certified against it now

| EN 50173-2 | Information technology - Generic cabling systems - Office premises |
| EN 50173-5 | Information technology - Generic cabling systems - Data centres |
| EN 50173-6 | Information technology - Generic cabling systems - Distributed building services |
| EN 50174-1 | Information technology - Cabling installation - Installation specification and quality assurance |
| EN 50174-2 | Information technology - Cabling installation - Planning and Installation practices inside buildings |
| EN 50600-1 | Information technology: Data centre facilities and infrastructures: General concepts |
| EN 50600-2-1* | Information technology: Data centre facilities and infrastructures: Building construction |
| EN 50600-2-2* | Information technology: Data centre facilities and infrastructures: Power distribution |
| EN 50600-2-3* | Information technology: Data centre facilities and infrastructures: Environmental control |
| EN 50600-2-4* | Information technology: Data centre facilities and infrastructures: Telecommunications cabling infrastructure |
| EN 50600-2-5* | Information technology: Data centre facilities and infrastructures: Physical security |
| EN 50600-2-6* | Information technology: Data centre facilities and infrastructures: Management and operational information |
| * in preparation | |

# EXAMPLE FROM EN 50.600

| Infrastructure | Availability of overall set of facilities and infrastructures | | | |
| --- | --- | --- | --- | --- |
| | Low | Medium | High | Very high |
| | AVAILABILITY CLASS | | | |
| | 1 | 2 | 3 | 4 |
| **Power supply/ distribution**<br><br>**EN 50600-2-2** | Single-path (no redundancy of components) | Multi-path (resilience provided by redundancy of systems) | Multi-path (resilience provided by redundancy of systems) | Multi-path (fault tolerant even during maintenance) |
| **Environmental control**<br><br>**EN 50600-2-3** | No specific requirements | Single-path (no redundancy of components) | Single-path (resilience provided by redundancy of components) | Multi-path (resilience provided by redundancy of systems), allows maintenance during operation |
| **Telecommunications cabling**<br><br>**EN 50600-2-4** | Single-path using direct connections | Single-path using fixed infrastructure | Multi-path using fixed infrastructure | Multi-path using fixed infrastructure with diverse pathways |

Figure 1 - The Availability Class concept of EN 50600-1

# THANK YOU!

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