ISO 30.134 AND EN 50.600 - MINEFIELDS OR VALUABLE STANDARDS?

Pekka Järveläinen, managing director, GNG.fi

Chairman, Finnish data center forum ry

pekka@gng.fi

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)



WHAT IF I DO NOT CARE?

IS IT A CRIME?

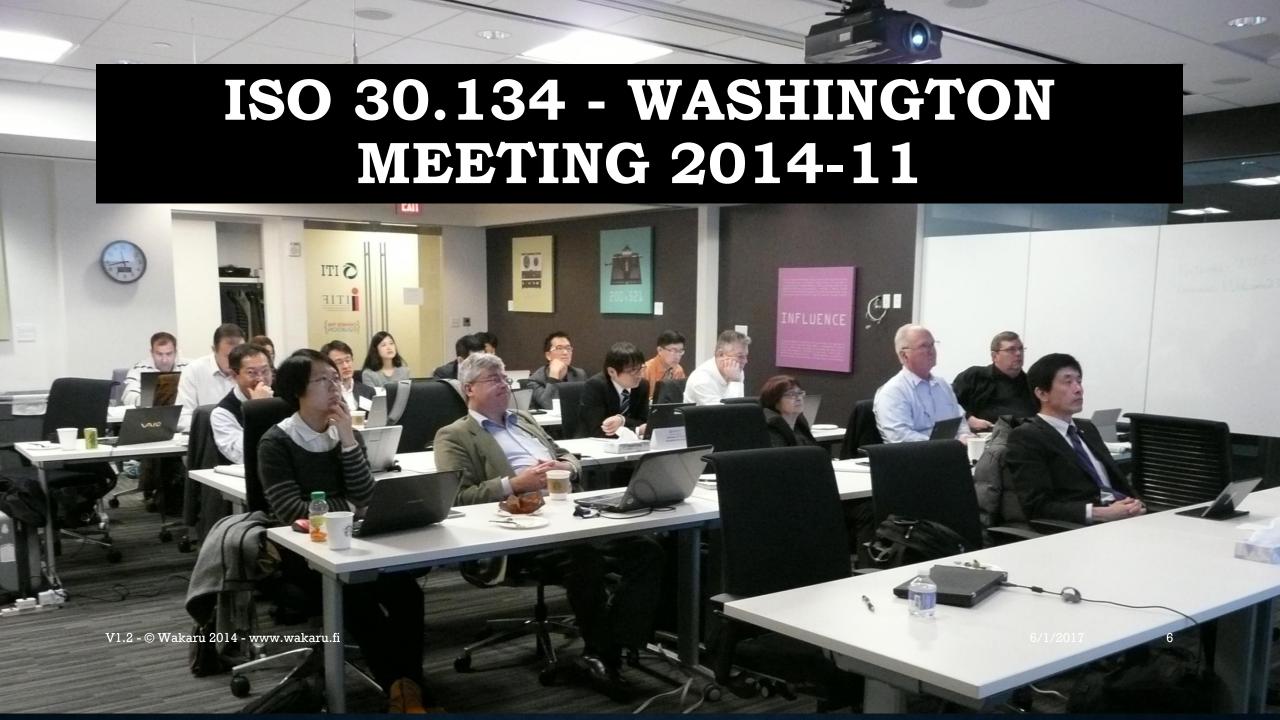
• Local vendor specific solutions tend to disappear from market in long run

- 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)





EN50.600 - EUROPEAN STANDARD

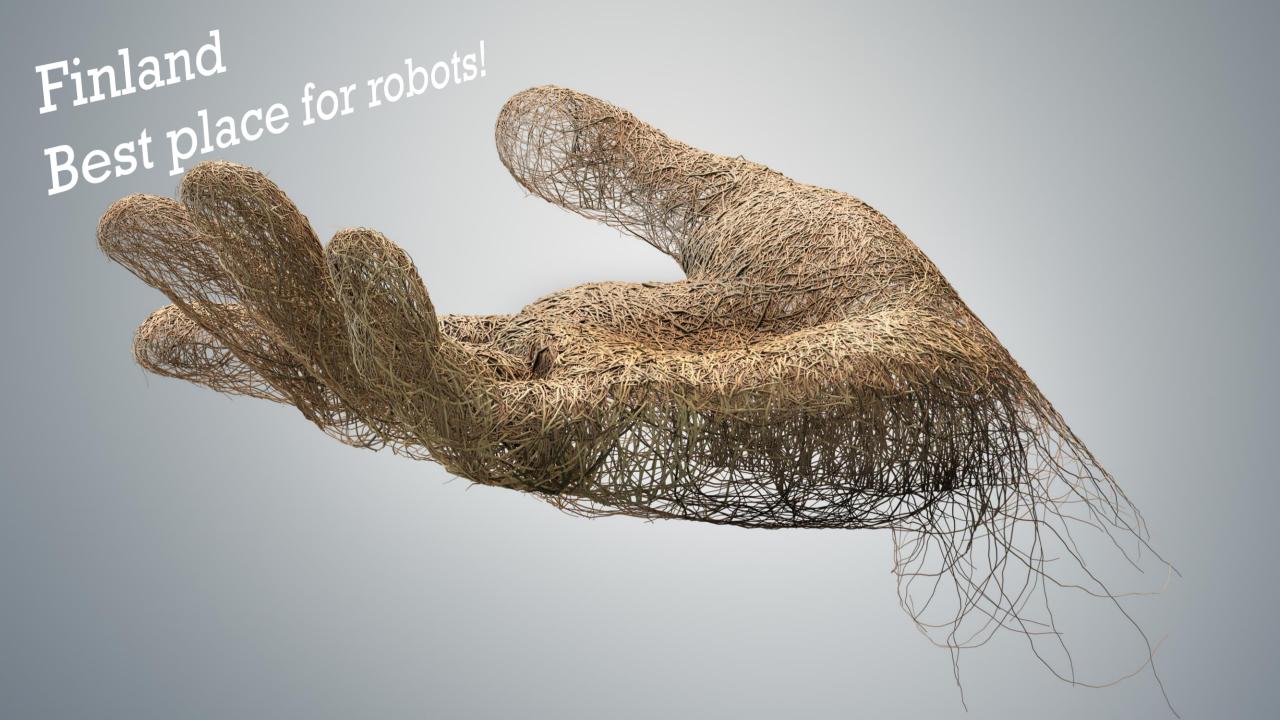
- Standard is now mostly ready (-1 to -6)
- Already applied at operations at several IT service providers DCs
- Data center desing can be certified against it now

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

	Availability of overall set of facilities and infrastructures				
	Low	Medium	High	Very high	
	AVAILABILITY CLASS				
Infrastructure	1	2	3	4	
Power supply/ distribution 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 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 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!

Pekka Järveläinen, chairman Finnish data center forum ry Managing director, GNG Pekka@gng.fi