

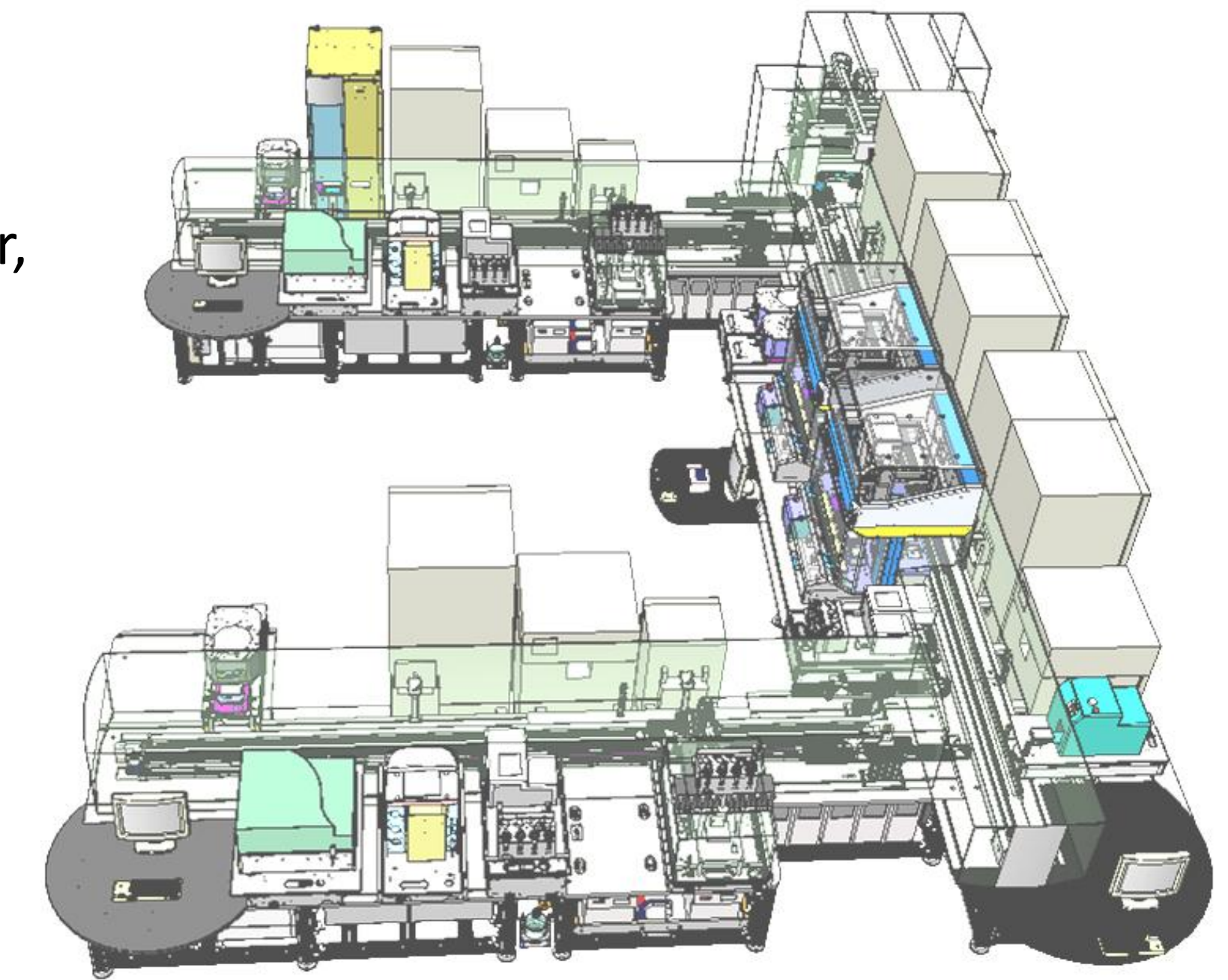
SiLA Standardisation in Lab Automation – an Initiative of Vendors and Users

Authors

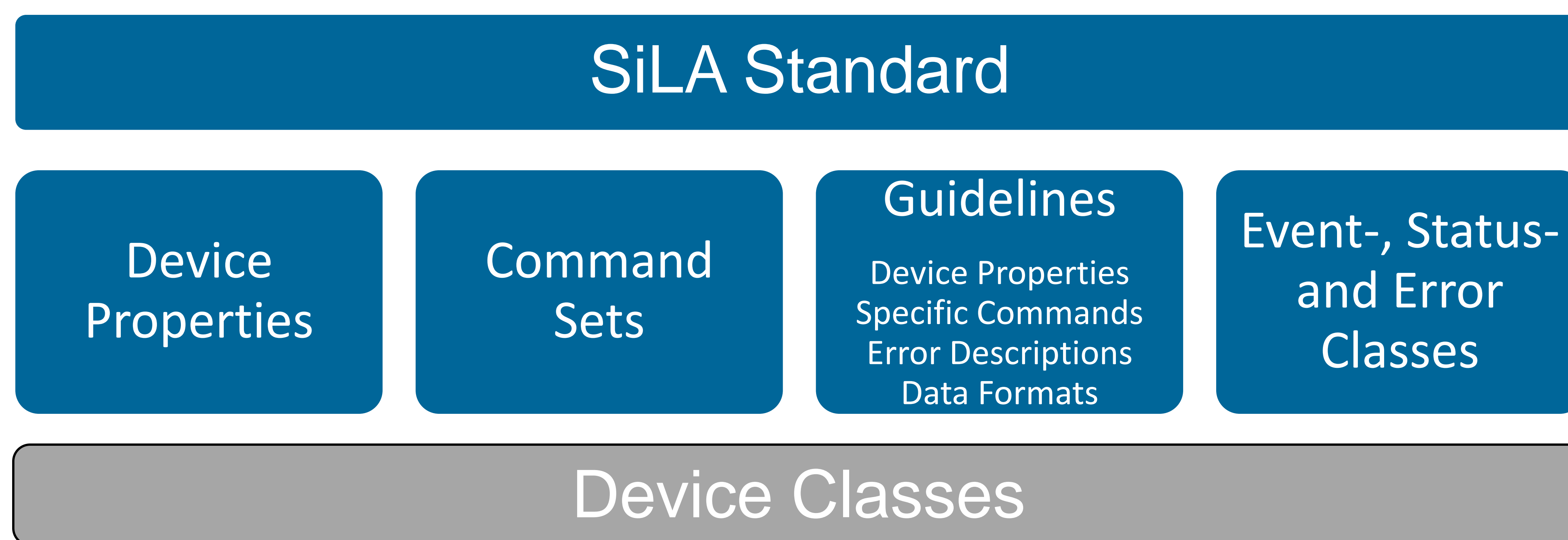
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Challenges in Lab Automation

- Cope with the pace of innovation
- Significant efforts to integrate or upgrade automated lab systems
- Proprietary command and data interfaces of lab instruments and devices
- Upgrades in reasonable time frames and cost budgets.
- Replace or upgrade devices without writing new driver software
- Adaptation to new workflow requirements



Standardization Concept



Device Classes

Device Classes shall be defined for the most commonly used device types in the lab automation environment.

Common Command Sets (,CCS')

For each Device Class a Common Set of Commands, Event-, Status- and Error-Classes is defined. All major device functions shall be programmable through Common Commands. All device suppliers following the SiLA standard shall support the Common Command Set as a subset of their command set.

Specific Commands

All functions extending the Common Command Set can be provided by the device supplier as Specific Commands. Specific Commands shall comply with the guidelines for Command Definition standards (see "Command Definition").

Device Properties

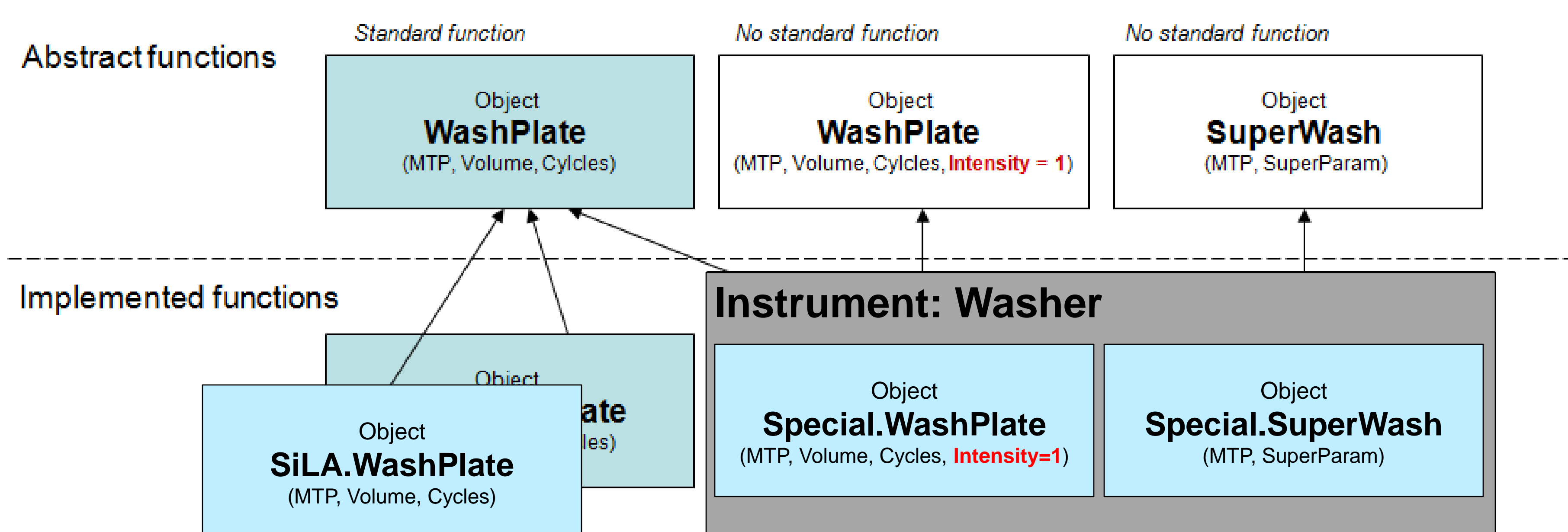
A device shall be able to provide information about its Device Class, its configuration, its Common Command Set (by providing the SiLA ID and version number), and its Specific Commands upon request. A query to the device for its properties shall return the meta data described in Command Definition.

Command Definition (Design Guidelines)

Common Commands and Specific Commands shall be described using the following meta data:

- Command ID (0 for specific commands)
- Command Name
- Command Parameters
- Return values
- Valid values / ranges for parameters and return values
- Units
- Timing (execution duration). Optional !
- Description

Example



Instruments are exchangeable by meeting the standard definition of a function (name, parameters, return values)

Conclusion

Benefits using SiLA Standardization

- More flexibility and easier integration of devices
- Reduced efforts during replacement of integrated equipment
- Allow fast implementation of technological innovation
- Allow fast adaptation of hardware and software to new workflow requirements

First implementations ready by end of 2009 !

ToolPoint for Life Science

ToolPoint for Life Science, a Swiss not-for-profit organization, was initiating and is managing SiLA, the standardization initiative which is based on an industry consortium of instrument suppliers, integrators and pharma companies.

Additional companies – vendors and users – are welcome to join SiLA