

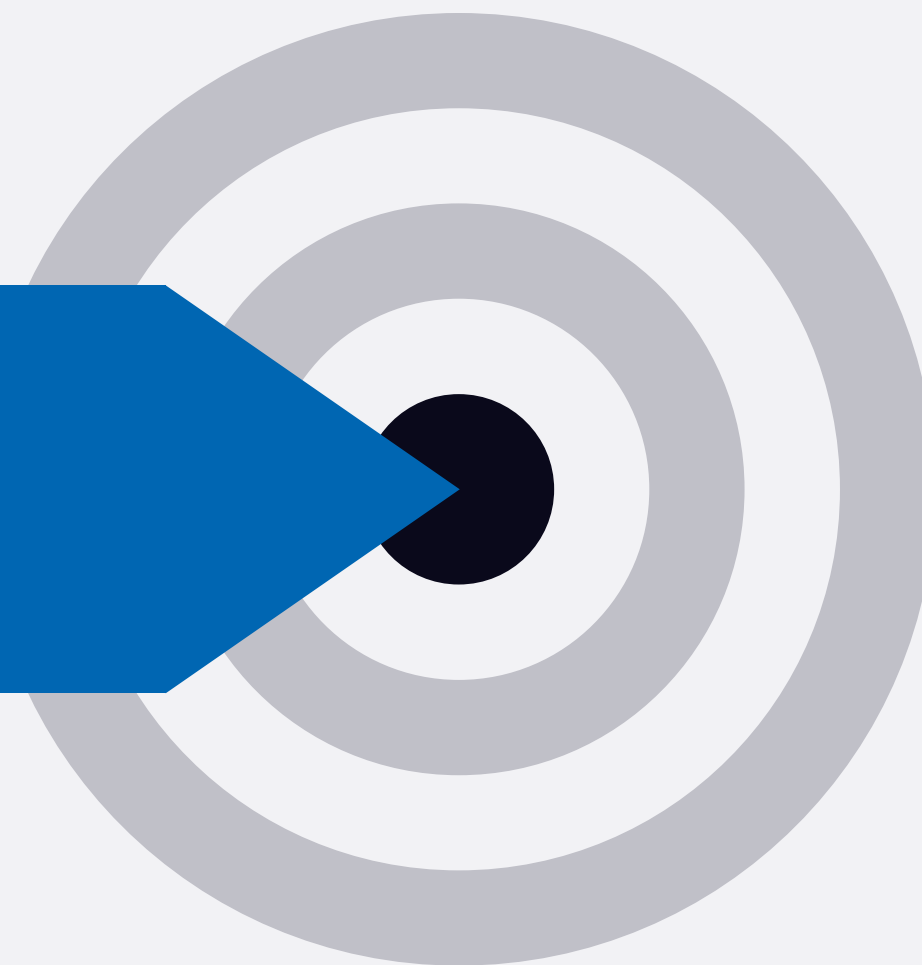
SAREF for Smart Lifts and Its Application to the Vertical Sector

Mauro Dragoni

11/10/2022



**Why SAREF and IoT are important
for supporting the vertical sector?**





**challenges within in
the vertical sector**

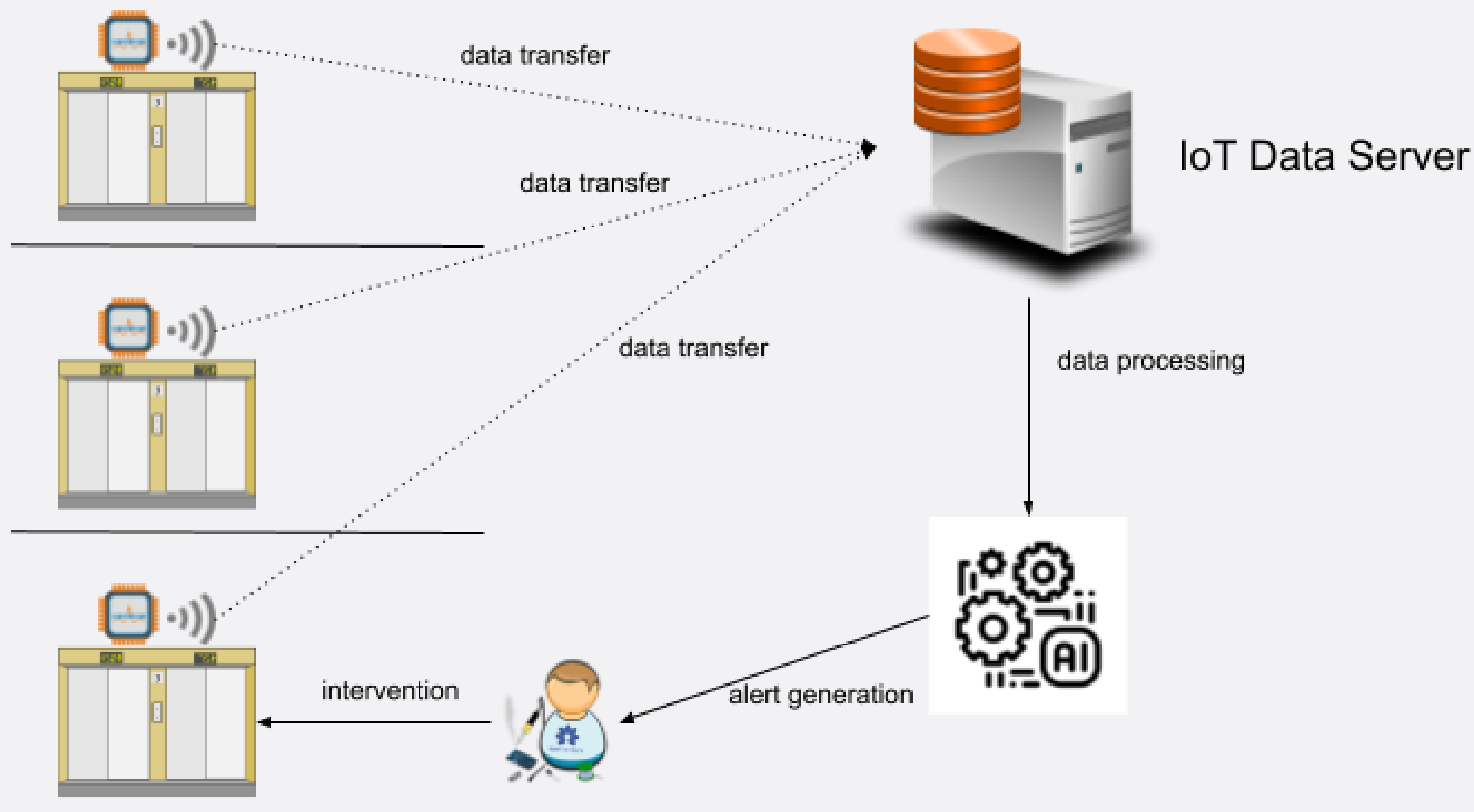


challenges within the vertical sector

- Predictive maintenance

IoT and the vertical sector

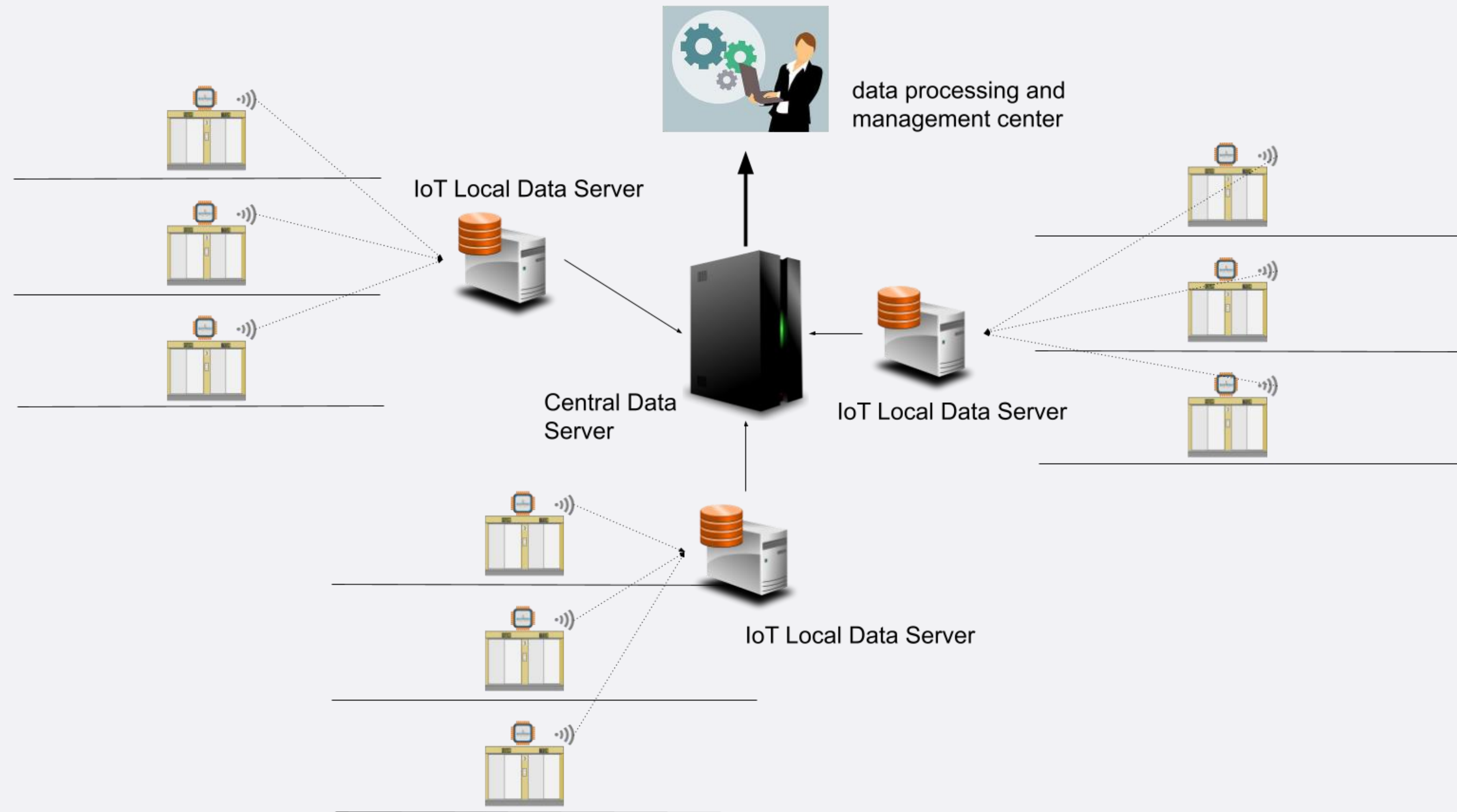
predictive maintenance scenario



challenges within the vertical sector

- Predictive maintenance
- Energy saving

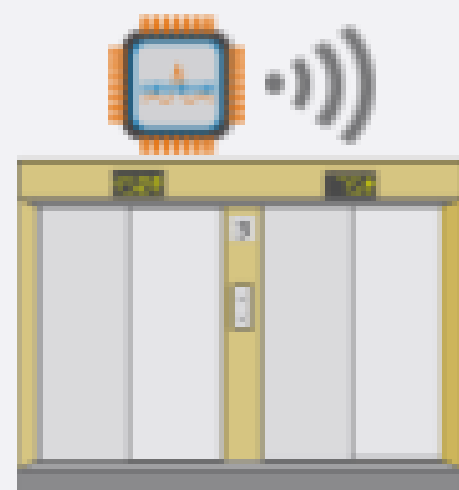
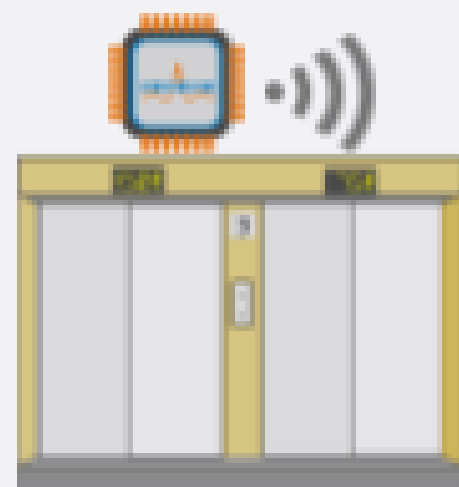
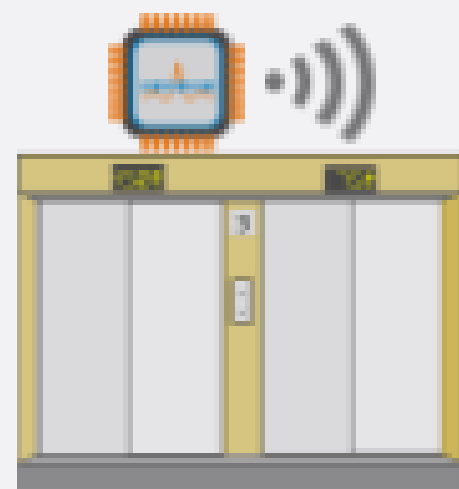
IoT and the vertical sector energy saving scenario



challenges within the vertical sector

- Predictive maintenance
- Energy saving
- Usage optimization

IoT and the vertical sector usage optimization scenario



SAREF4LIFT

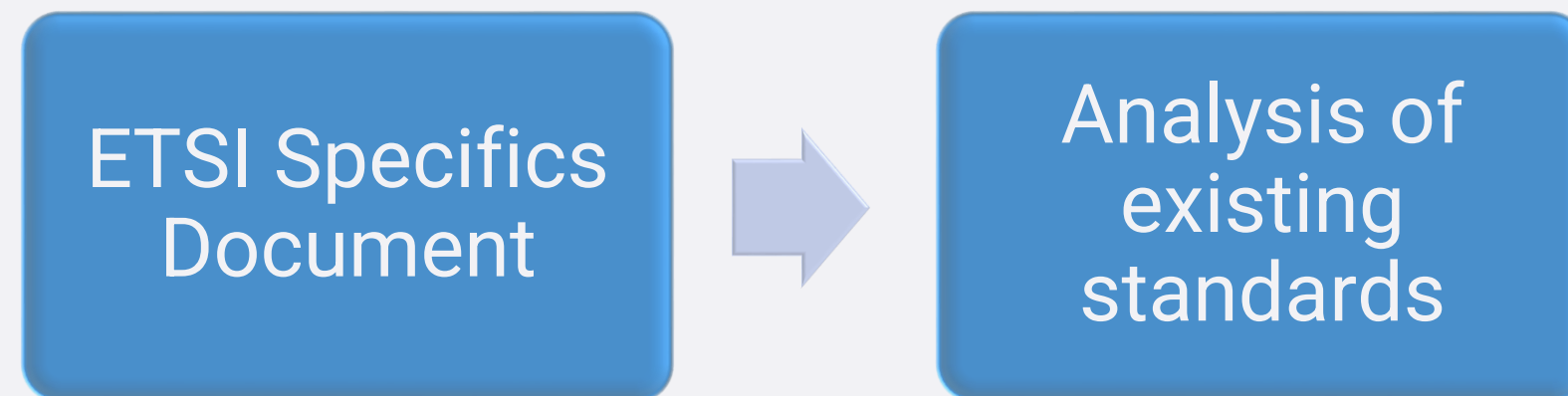
SAREF4LIFT – What is?

- It is an extension of the SAREF Core Ontology dedicated to the Smart Lift domain.
- It is composed by:
 - a formal description of the conceptual knowledge.
 - a set of possible real-world examples represented through instances of the ontological extension.

SAREF4LIFT – Building process

ETSI Specifics
Document

SAREF4LIFT – Building process



SAREF4LIFT – Building process

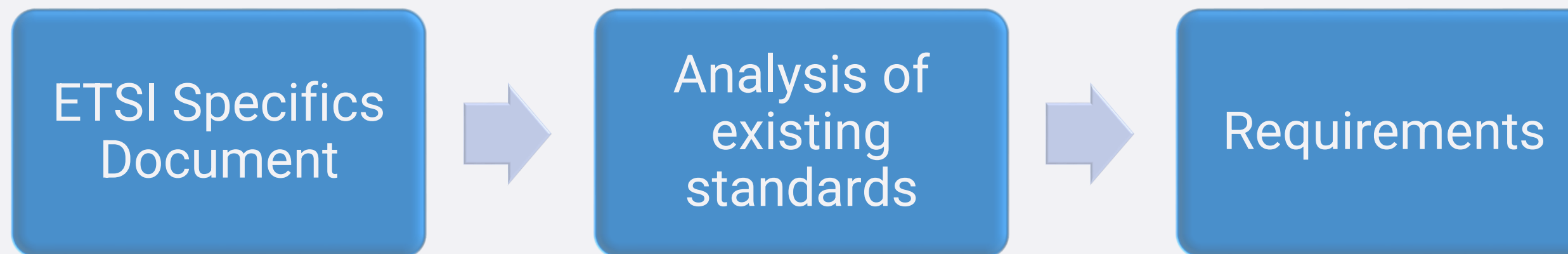


Table 3: Requirements for the “Power Supply Signal” category.

Id	Competency Question/Statement	Answer
LIFT-27	Is the emergency power supply signal active?	Yes/No
LIFT-28	Is the standard power supply signal active?	Yes/No
LIFT-29	Which is the voltage of emergency power?	Voltage value, i.e. 330 volts

Table 4: Requirements for the “System Status Signal” category.

Id	Competency Question/Statement	Answer
LIFT-30	Is the lift out of service?	Yes/No
LIFT-31	Is the lift overloaded?	Yes/No
LIFT-32	Are there ongoing inspection operations?	Yes/No
LIFT-33	Are there fire operations?	Yes/No

Table 5: Requirements for the “Fault Signal” category.

Id	Competency Question/Statement	Answer
LIFT-34	The lift has a dangerous fault.	
LIFT-35	The lift has a minor fault.	
LIFT-36	The lift has an audio fault.	

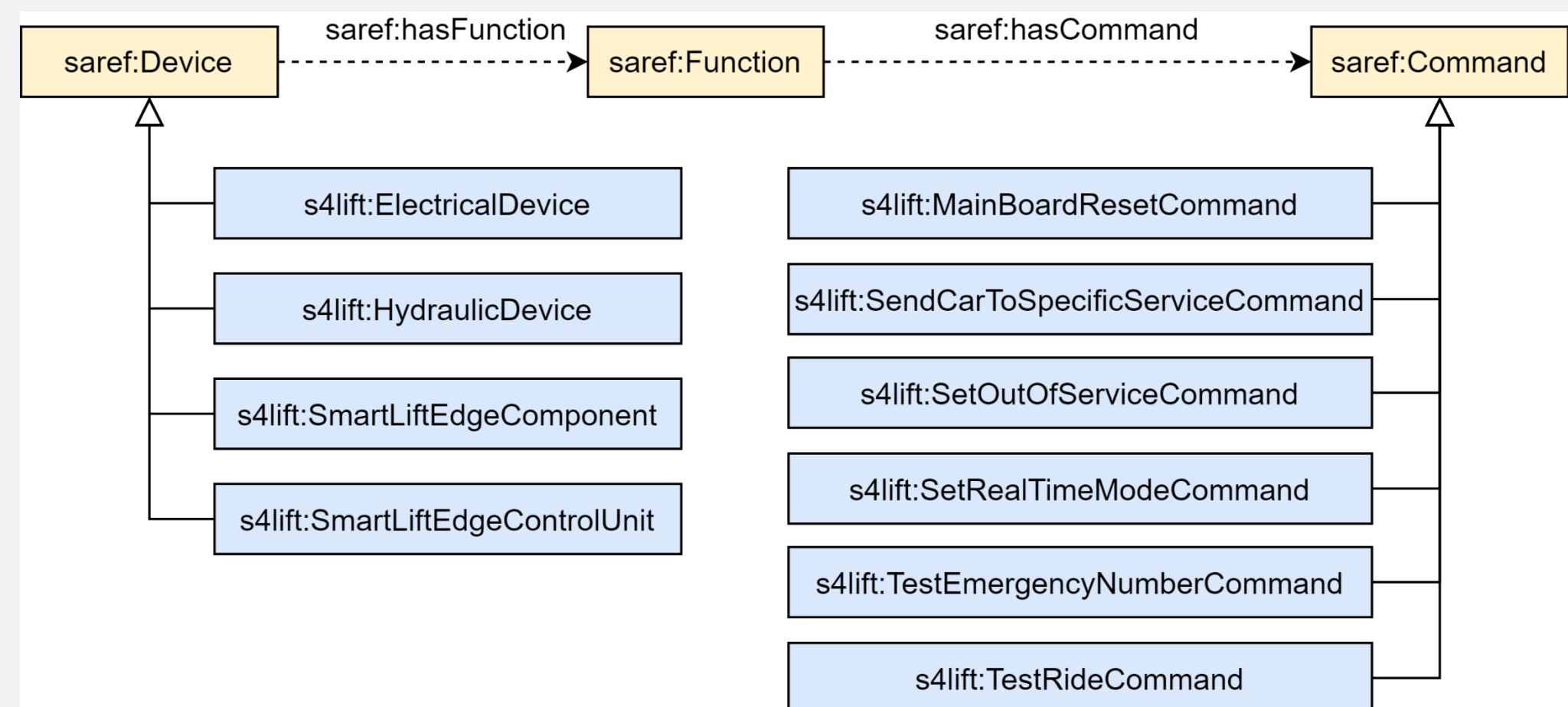
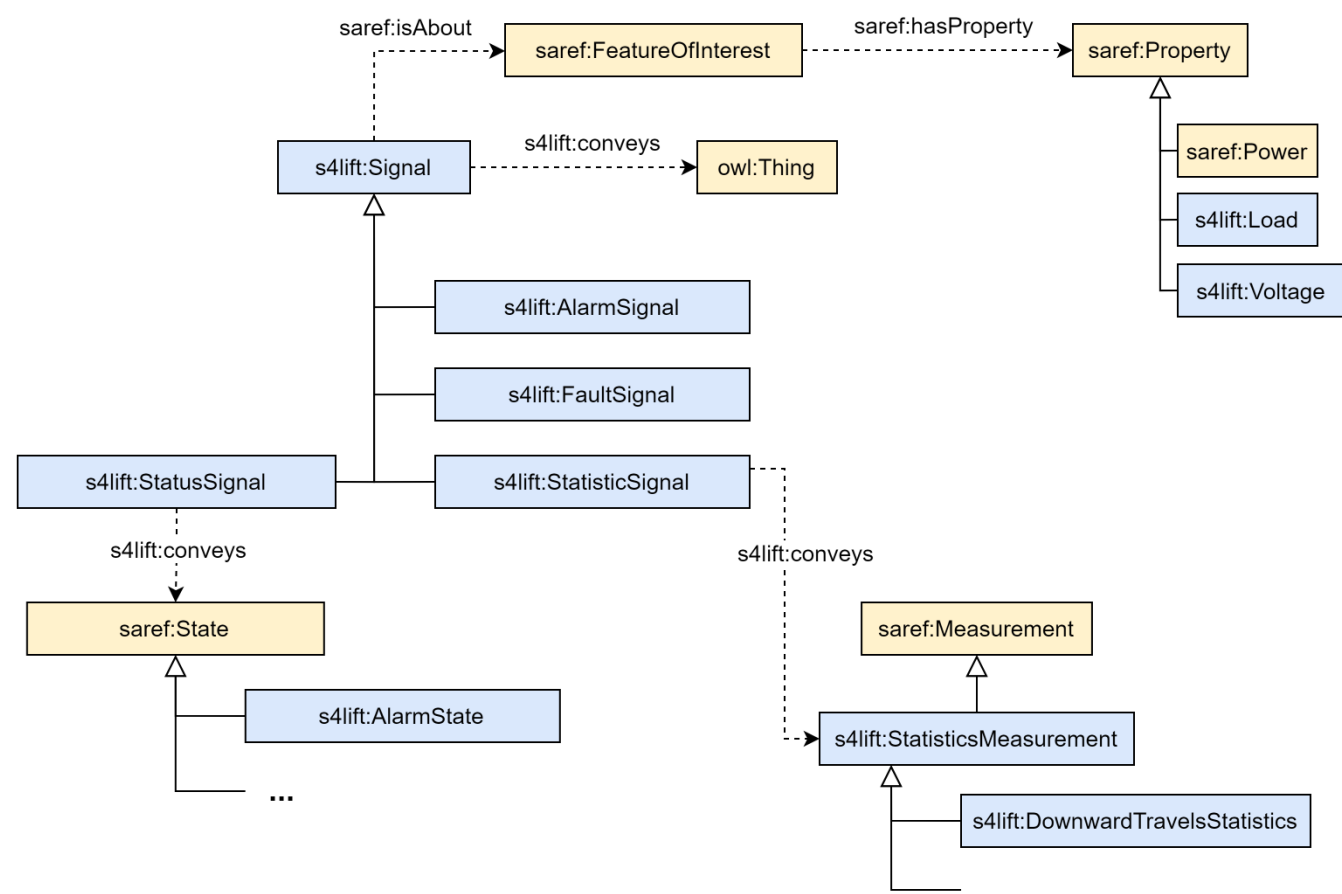
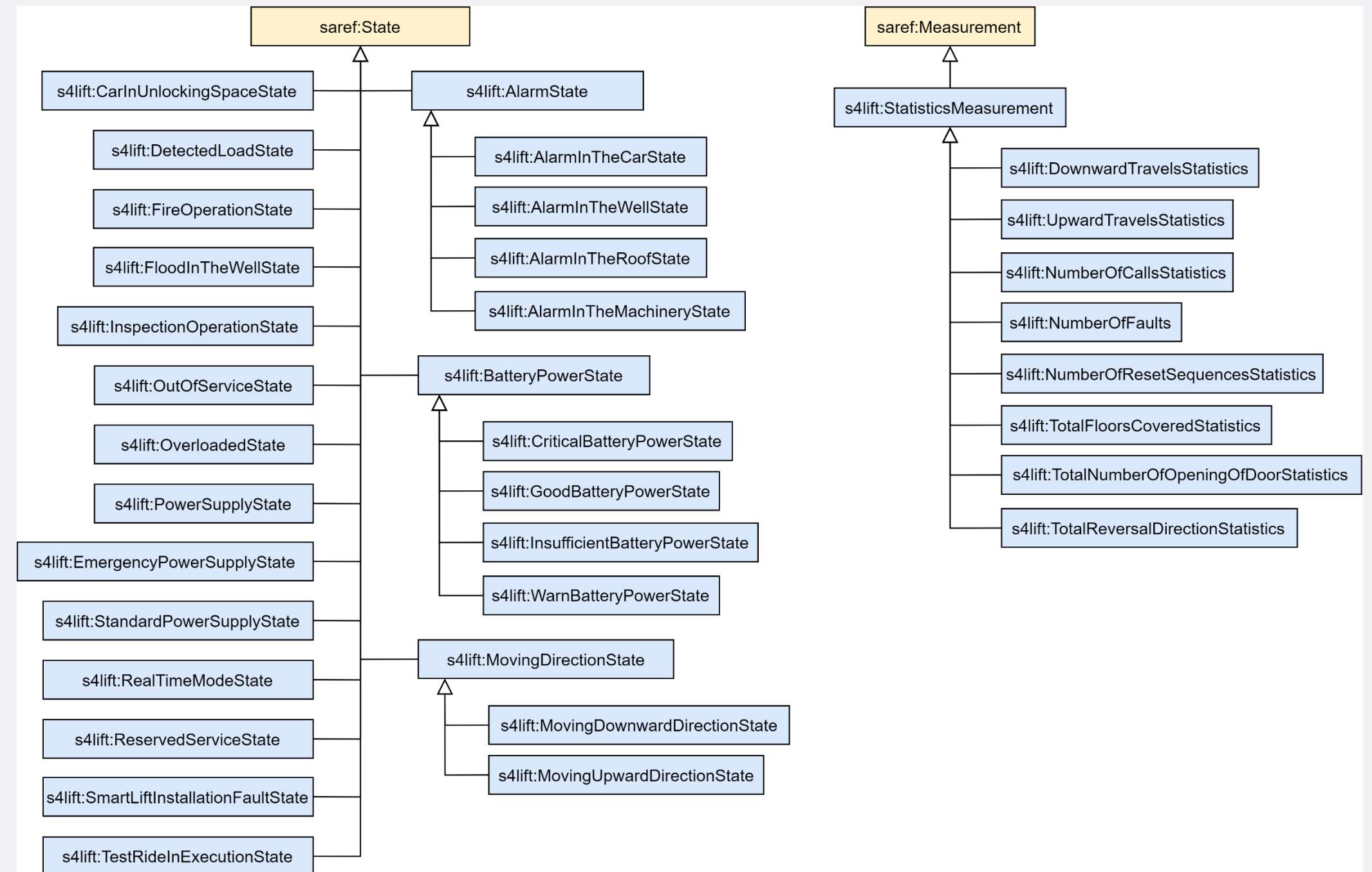
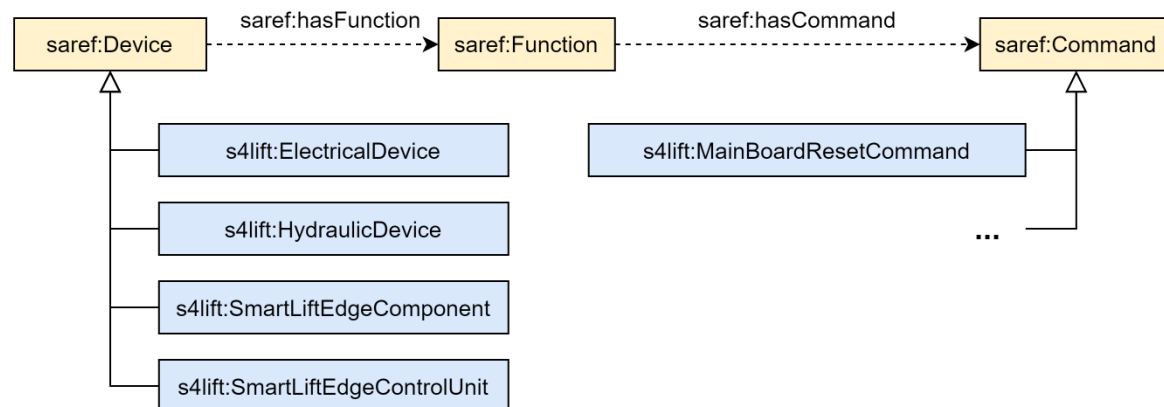
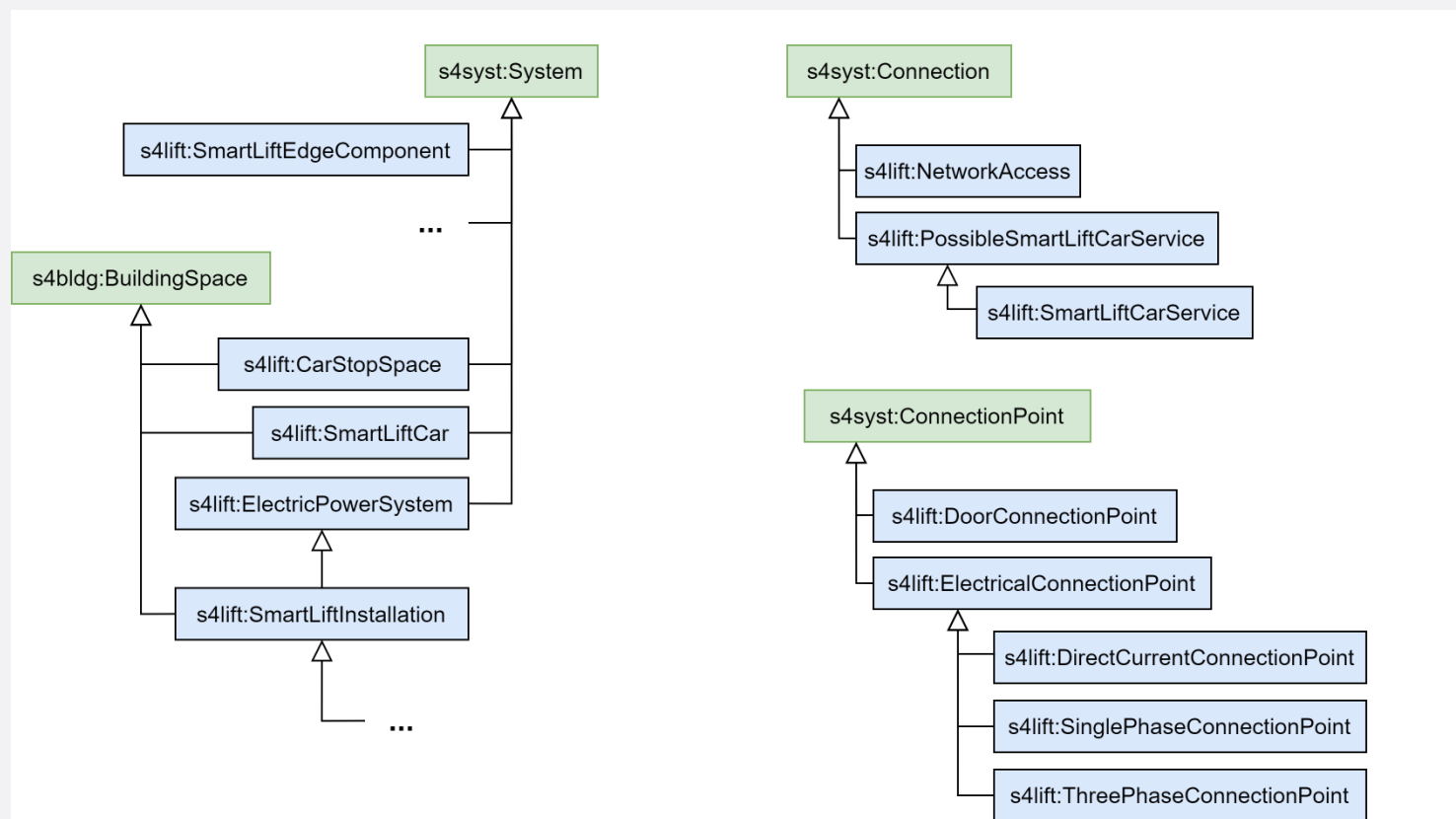
Table 6: Requirements for the “Statistic Signal” category.

Id	Competency Question/Statement	Answer
LIFT-37	How many times the lift has been called?	245
LIFT-38	How many upward travel the lift did?	167
LIFT-39	How many downward travel the lift did?	153
LIFT-40	Which is the total number of floors covered?	94
LIFT-41	How many times have been executed the reset sequence?	26
LIFT-42	How many times the lift adopted the reversal direction?	4
LIFT-43	How many times the door has been opened?	362
LIFT-44	How many times the lift has been called from the floor X?	46
LIFT-45	How many times the fault event X occurred?	12

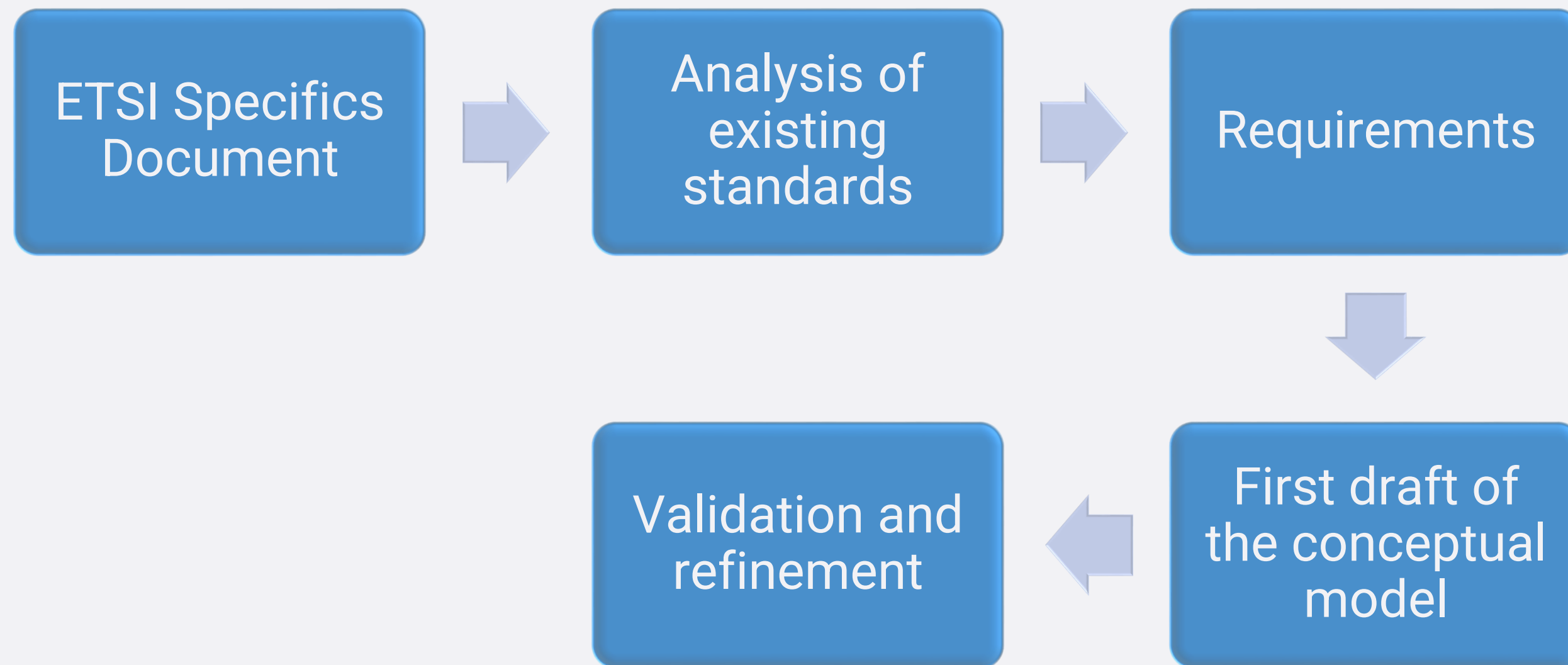
SAREF4LIFT – Building process



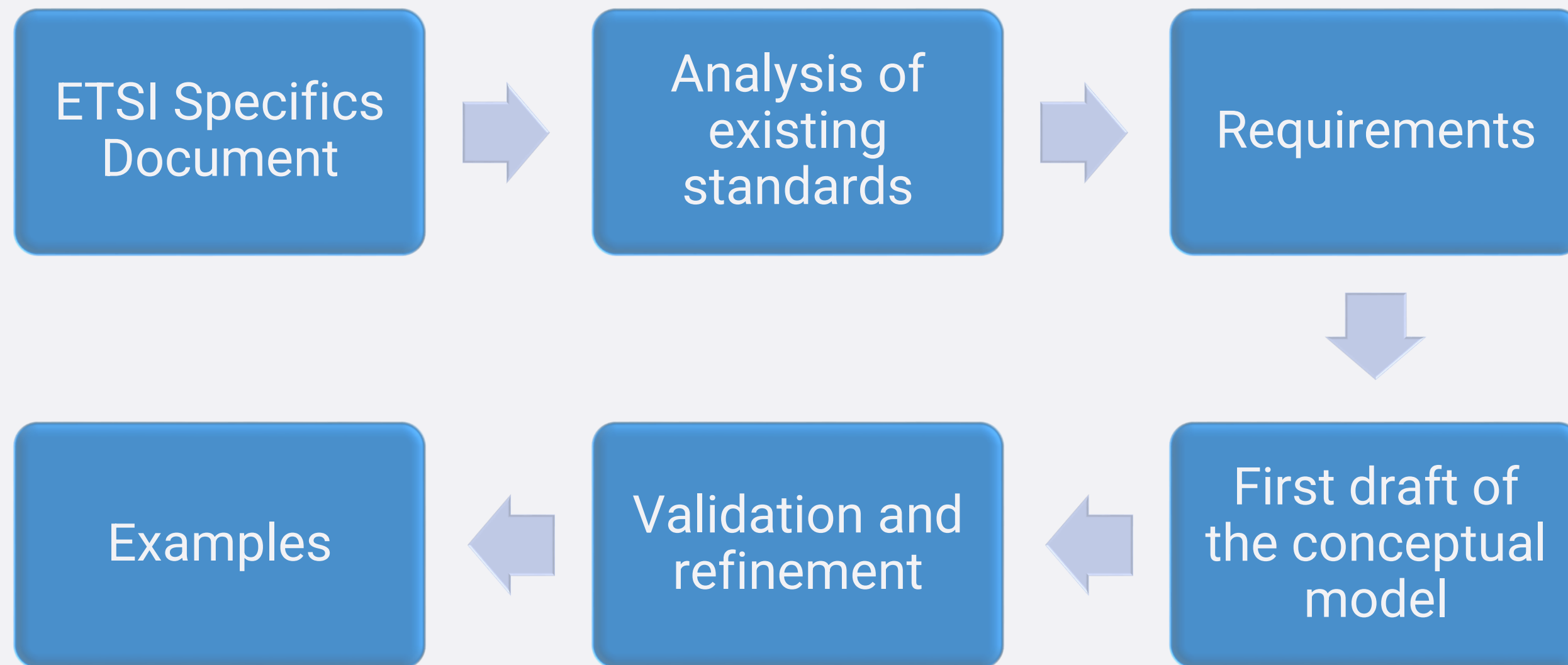
SAREF4LIFT – Building process



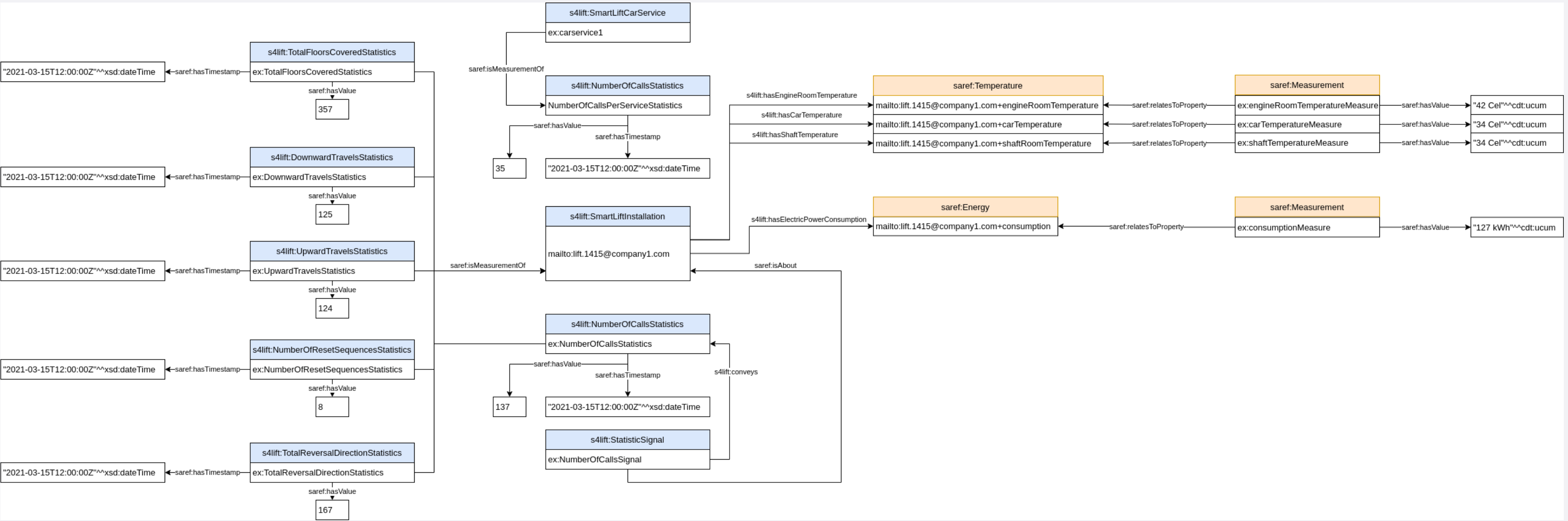
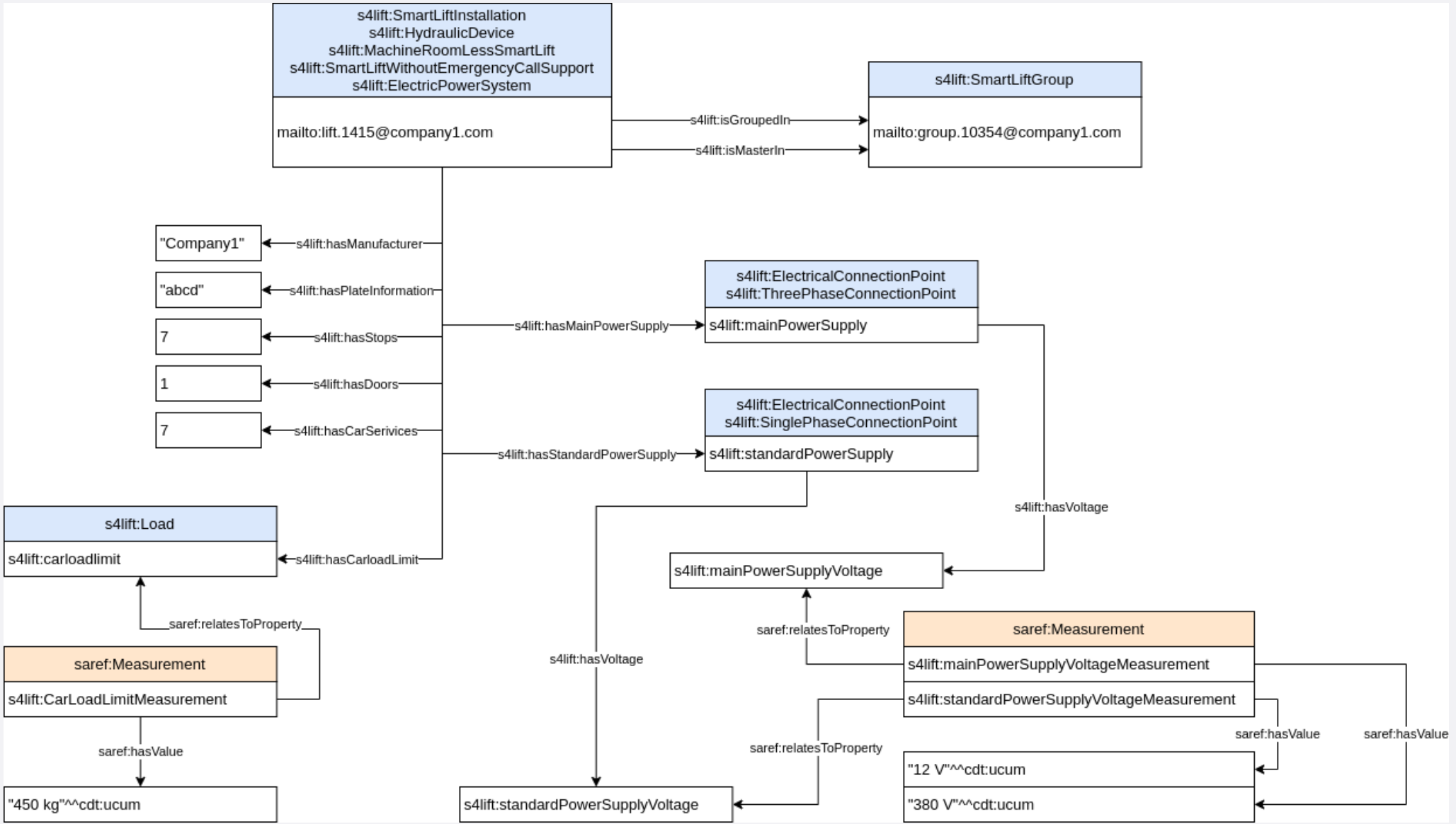
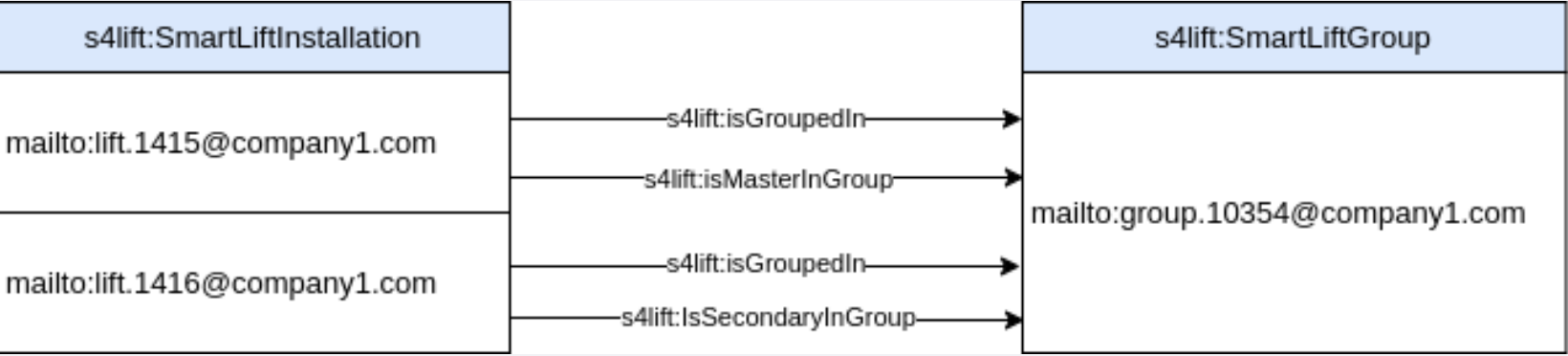
SAREF4LIFT – Building process



SAREF4LIFT – Building process



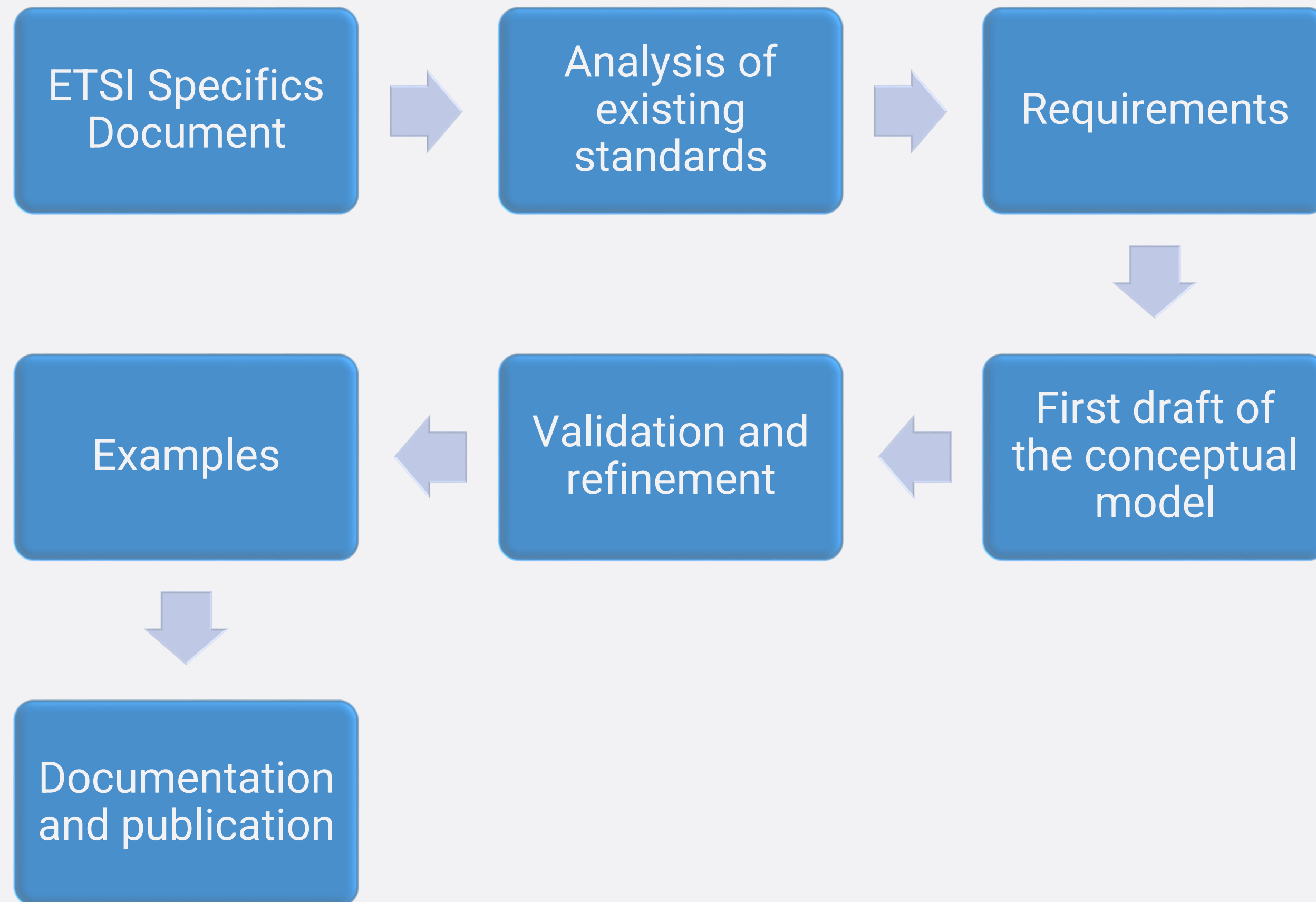
SAREF4LIFT – Building process



SAREF4LIFT – Building process

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```


SAREF4LIFT – Building process



SAREF4LIFT – Future work

- Further refinement and extension activities on the conceptual model.
- Increasing the number of liaisons with industrial bodies.
- Deployments into real-world scenarios.

「thank you.」

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