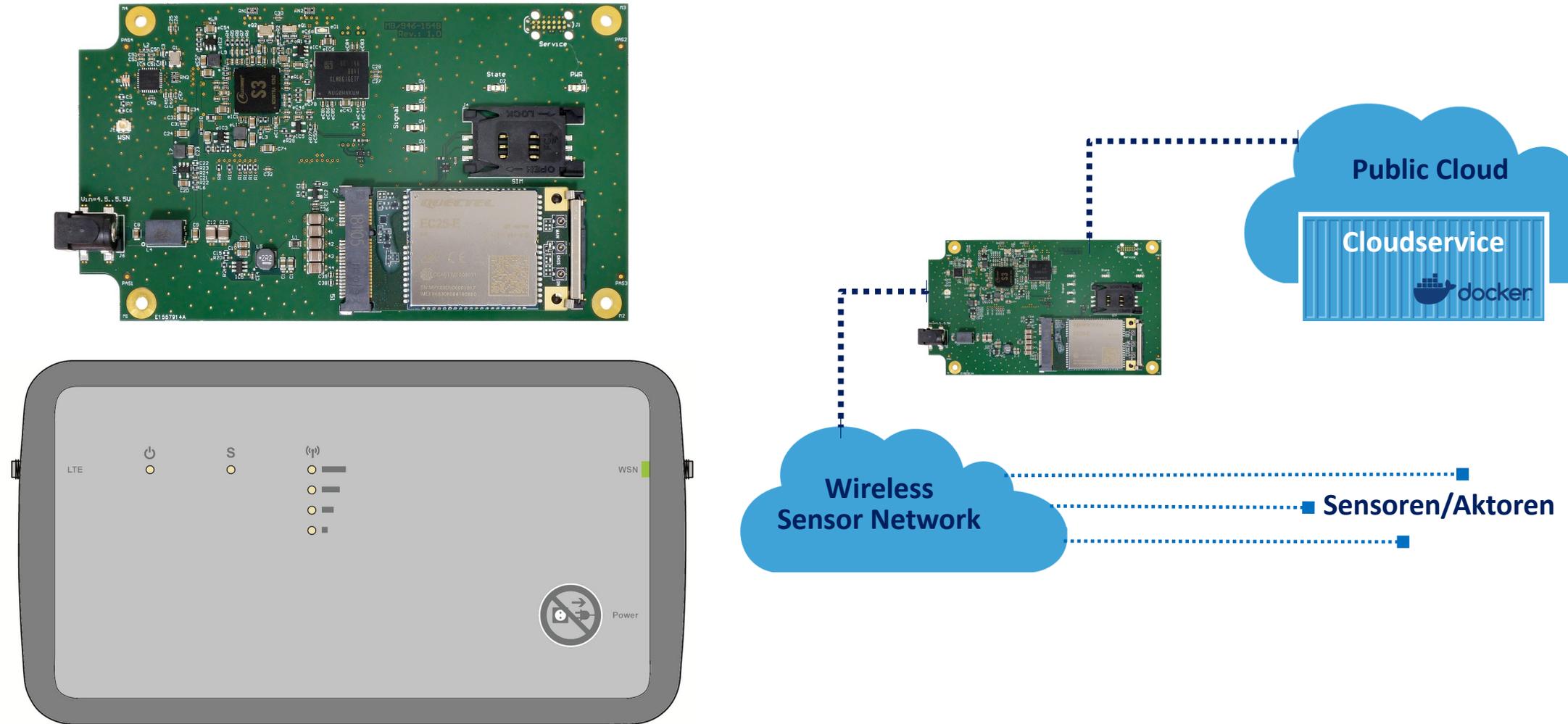


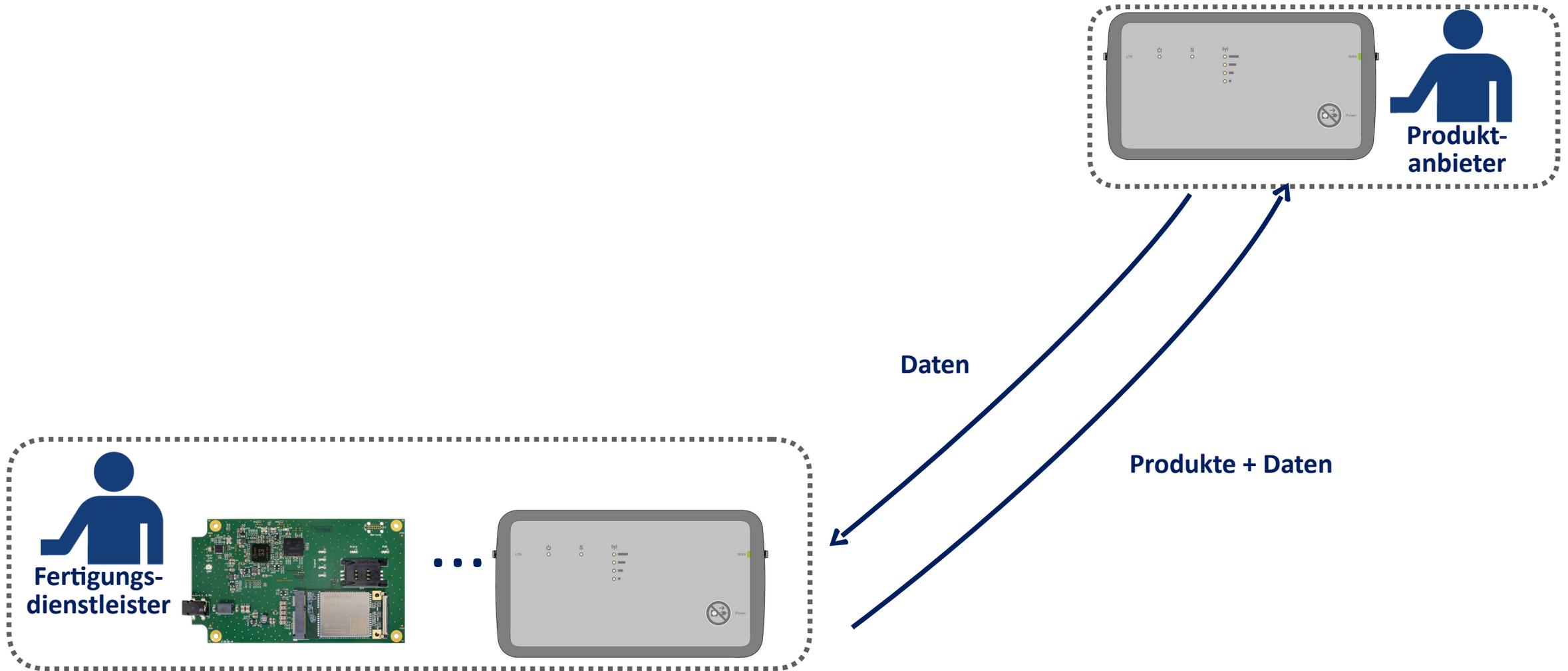
Low-Code-Applikationen mit KI-basierter Sensorik

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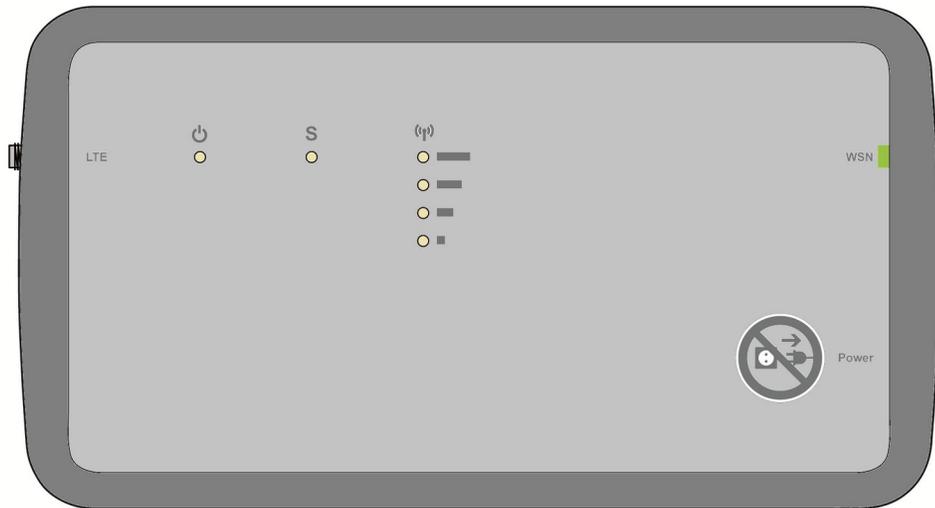
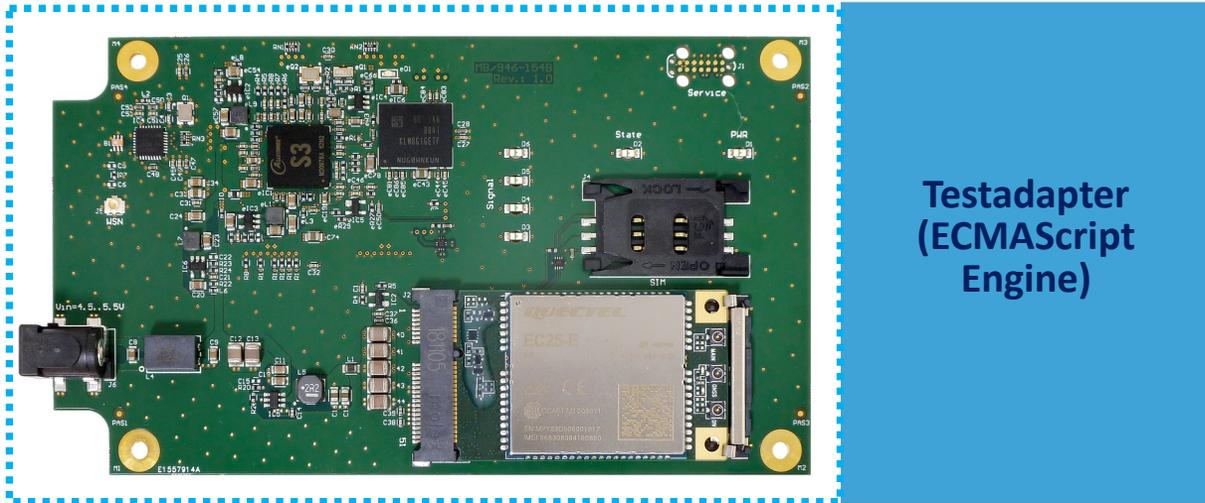
Die User Story: Praxisbeispiel aus der Elektronikproduktion



Die User Story: Verbindung unterschiedlicher Datenwelten



Die User Story: Testen als Herausforderung

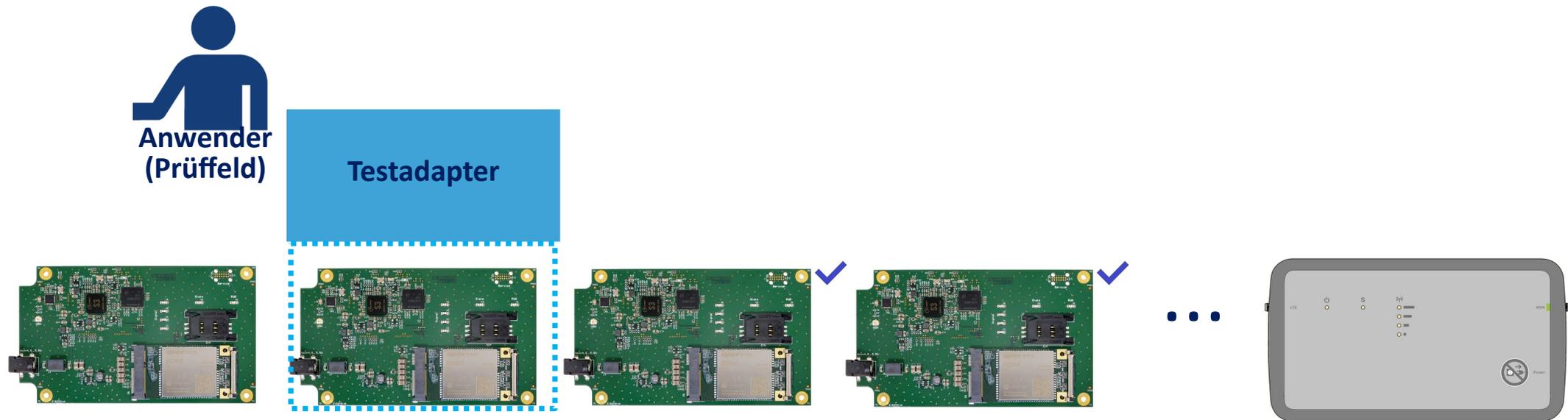


T tp-mgw946-154b

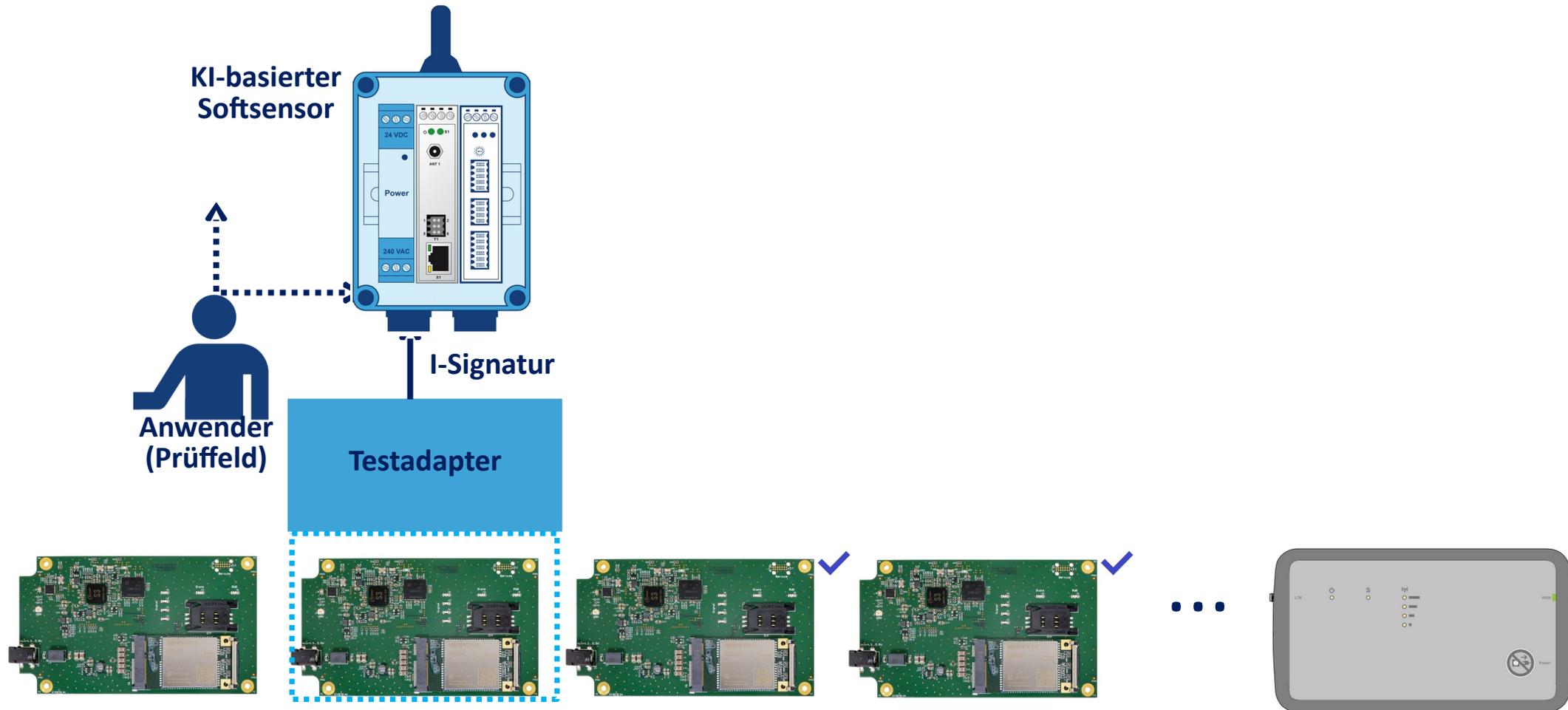
- Project information
- Repository
- Files**
- Commits
- Branches
- Tags**
- Contributor statistics
- Graph
- Compare revisions
- Issues 0
- Merge requests 0
- CI/CD
- Security and Compliance
- Deployments
- Packages and registries
- Infrastructure
- Monitor

ECMAScript Testsoftware

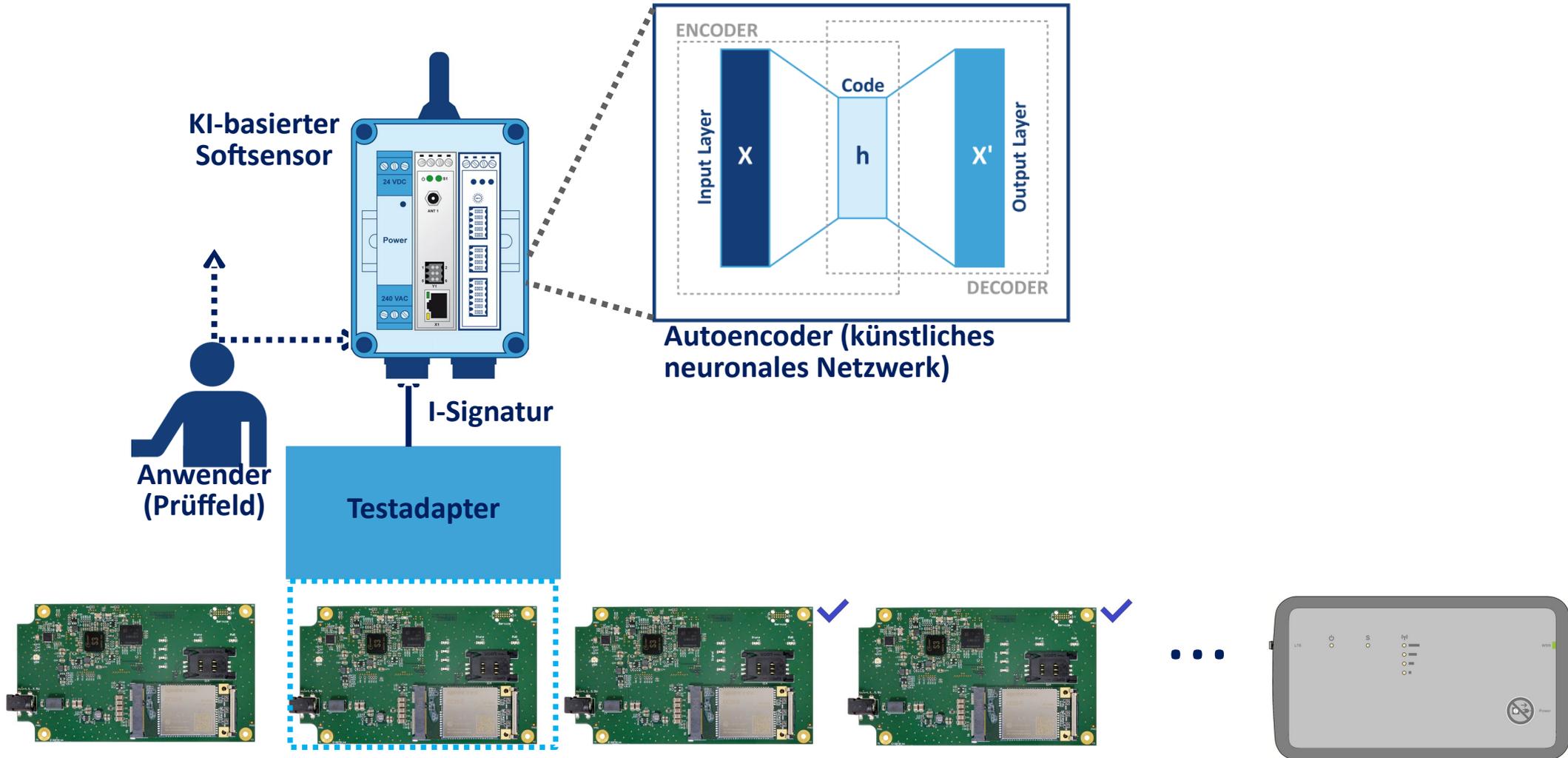
- 00-await-dut.mjs
- 10-login-uboot.mjs
- 11-get-eth-addr.mjs
- 13-mesaure-voltages.mjs
- 20-load-live-linux.mjs
- 21-start-modem.mjs
- 22-check-leds.mjs
- 23-partition-emmc.mjs
- 24-check-modem.mjs
- 25-install-uboot.mjs
- f0-report-log.mjs
- f1-report-git.mjs
- f2-remove.mjs



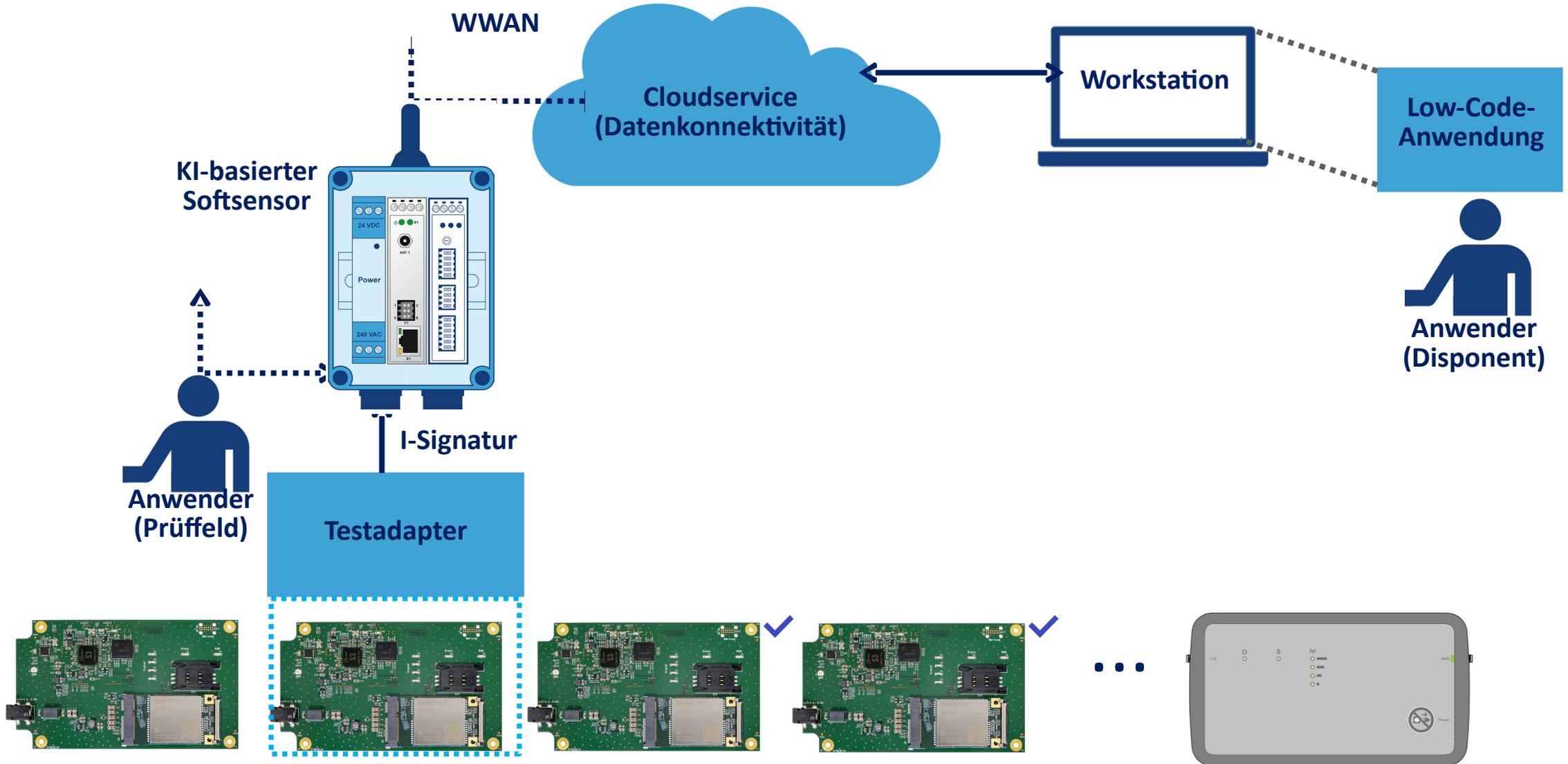
Integrative Herausforderungen bei der Digitalisierung



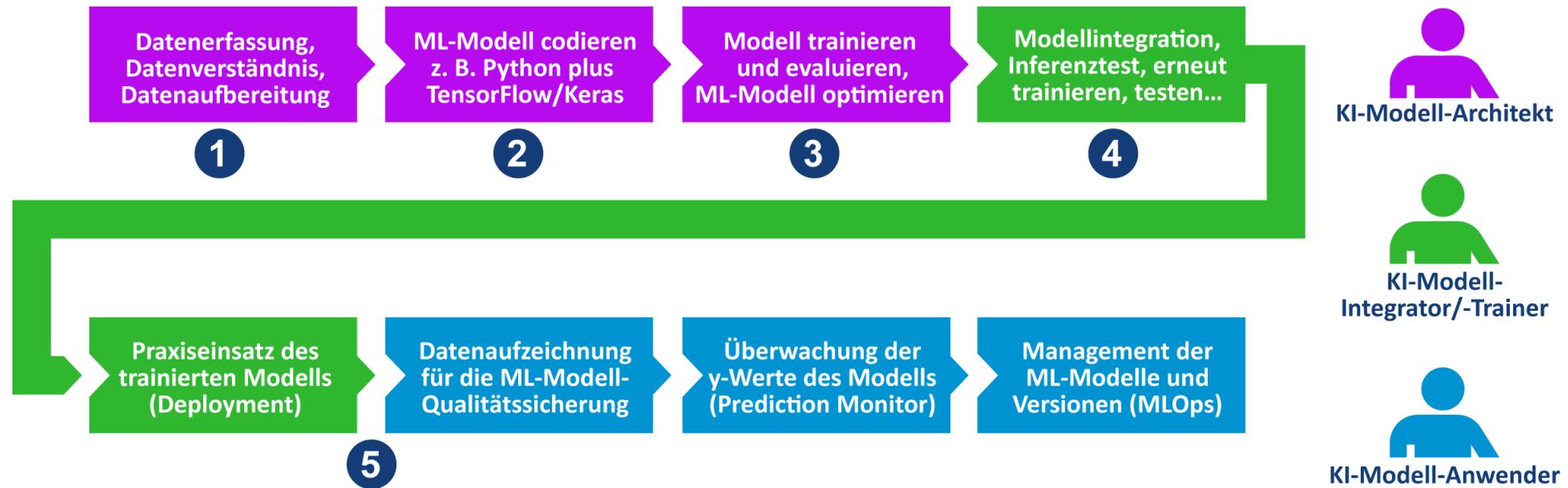
Integrative Herausforderungen bei der Digitalisierung



Integrative Herausforderungen bei der Digitalisierung



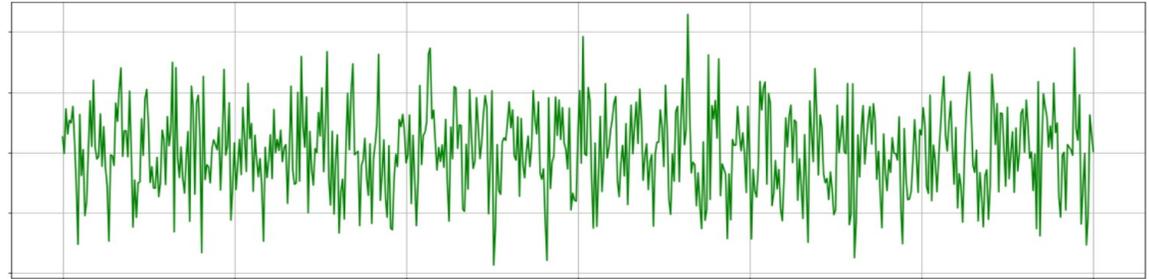
Wie kommt die KI in den Endpunkt?



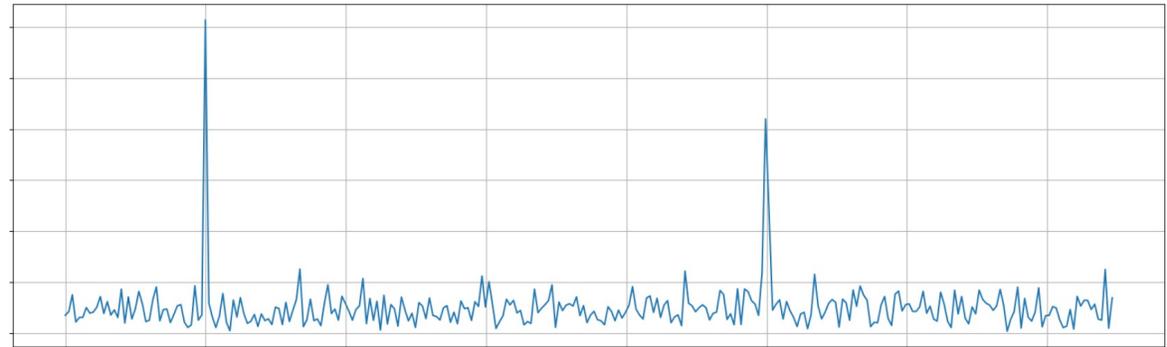


I-Signatur

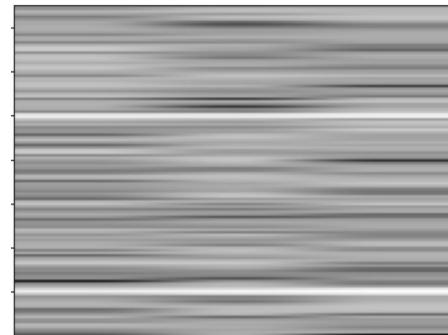
① Strommessung im Zeitbereich (Symbolbild)

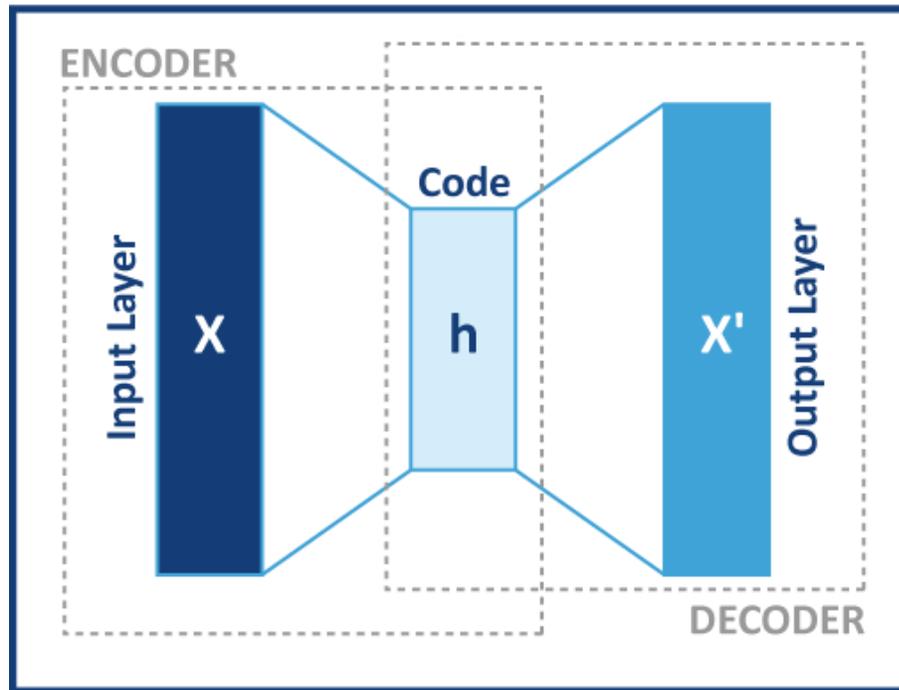


② Strommessdaten im Frequenzbereich (DFT)



③ Strommessdaten als Spektrogramm





Ausschließliche Verarbeitung von Normalzuständen

Unterscheidung zwischen normal und abnormal

Vielfältig einsetzbar

Key Features der No-Code Plattform



The screenshot displays the SSV No-Code Platform interface for a demo network named 'Demo_Network9'. The interface is divided into several sections:

- Left Sidebar:** Contains the SSV logo and a list of network components: Demo_Network9, GW, HNE-01-WL-02, HNE-01-WL-03, HNE-01-WL-03-2, HNE-02-CSV-01, HNE-NDX4, HNE-NDX4-30.174, HNE-NDX4-30.174-b, KBO-Test, KBO-Test-2, KDW-T1, LiveTest, and MKE_tst. At the bottom, there are buttons for 'Add IDS Sensor', 'Logout', and 'Version 1.1.5'.
- Top Header:** Shows the browser address bar with the URL 'kbo-ids.terminal:5000/view/data_explo/content/Demo_Network9' and the title 'IDS Data Exploration Tool'.
- Main Content Area:**
 - Demo_Network9:** A header section with a 'Delete' button.
 - IDS Sensor Data:** A list of CSV log files under the heading 'CSV log files'. The files include 'ids_logger.11.csv' through 'ids_logger.4.csv' with their respective timestamps. A 'Whitelist' section contains 'whitelist.csv'.
 - Machine Learning (ML):** A section with a 'Build Model' button and 'ML model files' including 'v-0.1__03.09.2024'.
 - Test log data:** A list of test log files, including 'ids_logger.101.csv'.
- Testsuite of v-0.1__03.09.2024:** A summary section showing the ML algorithm (V-1.1) and pipeline version (V-1.1). It includes buttons for 'Tests', 'Results', 'Embedded whitelist', 'Download', and 'Delete'. Below this is a table summarizing the test results:

	Total	Percentage
Anomalies	2	20.0 %
Normal	8	80.0 %
All	10	100.0 %
- Anomaly:** A table showing detected anomalies with columns for Index, protocol, req_src_ip, req_dst_ip, res_src_ip, res_dst_ip, src_port, dst_port, res_src_port, and res_dst_port.

Index	protocol	req_src_ip	req_dst_ip	res_src_ip	res_dst_ip	src_port	dst_port	res_src_port	res_dst_port
0	TCP	192.168.40.50	192.168.40.163	192.168.40.163	192.168.40.50	39243	1883	1883	39243
1	TCP	192.168.40.50	192.168.40.163	192.168.40.163	192.168.40.50	39243	1883	1883	39243
- Normal:** A table showing normal traffic with the same columns as the Anomaly table.

Index	protocol	req_src_ip	req_dst_ip	res_src_ip	res_dst_ip	src_port	dst_port	res_src_port	res_dst_port
0	TCP	192.168.40.50	192.168.40.163	192.168.40.163	192.168.40.50	39243	1883	1883	39243
1	TCP	192.168.40.50	192.168.40.163	192.168.40.163	192.168.40.50	39243	1883	1883	39243
2	TCP	192.168.40.50	192.168.40.163	192.168.40.163	192.168.40.50	39243	1883	1883	39243
3	TCP	192.168.40.50	192.168.40.163	192.168.40.163	192.168.40.50	39243	1883	1883	39243
4	TCP	192.168.40.50	192.168.40.163	192.168.40.163	192.168.40.50	39243	1883	1883	39243
5	TCP	192.168.40.50	192.168.40.163	192.168.40.163	192.168.40.50	39243	1883	1883	39243
6	TCP	192.168.40.50	192.168.40.163	192.168.40.163	192.168.40.50	39243	1883	1883	39243
7	TCP	192.168.40.50	192.168.40.163	192.168.40.163	192.168.40.50	39243	1883	1883	39243

Datenverwaltung

Modell Erstellung & Verwaltung

Performance-Indikatoren

Testsuite

Individualisierbarkeit



The screenshot shows the SSV DET Data Exploration Tool interface. A modal window titled "Detail View of Index: 5" is open, displaying a heatmap and a data table. The heatmap shows a central bright yellow/orange area surrounded by darker purple/blue areas. The data table below it shows the following data:

Index	timestamp	1	2	3	4	5	6	7	8	9	10	11	12	13
5	2021-10-26T10:00:58	20.25	20.0	20.25	19.5	20.25	20.5	20.75	20.75	19.25	20.5	20.5	21.25	21.5

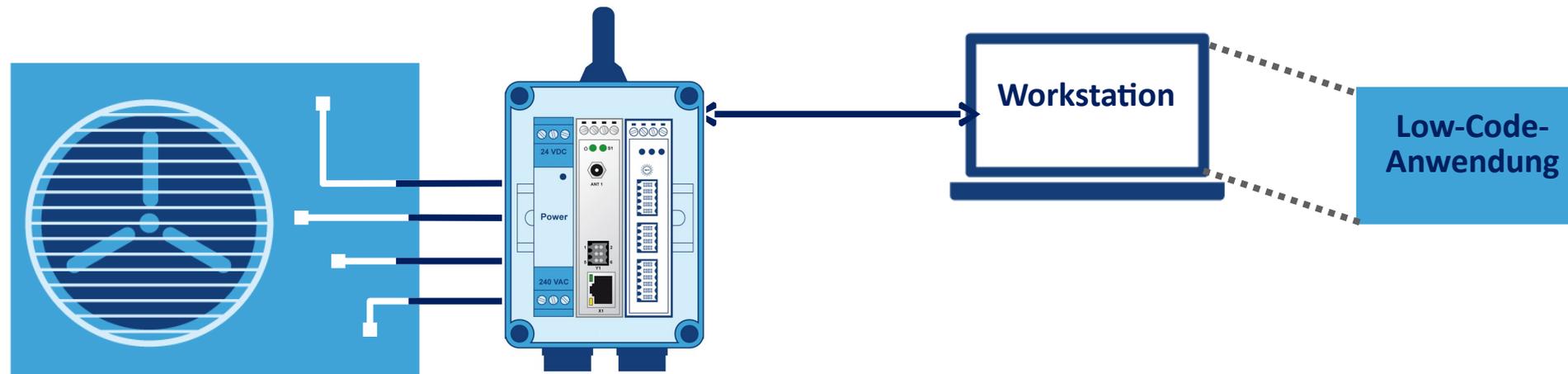
The background interface shows a sidebar with "KBO" and "Oszi" sections, and a main area with "Project Data" and "Machine Learning (ML)" sections. The "Project Data" section lists CSV log files, and the "Machine Learning (ML)" section lists ML model files and test log data. The main area also displays a table with columns "Detail", "label", and "image".

Skalierbare
Implementierung

Anwendung verschiedener Use-
Cases

Industrieller
Einsatz

Ein KI-basierter Softsensor verbessert unsere Testadapter, indem die Komplexität roher Zeitreihen-Messwerte isoliert und die eigentliche Information extrahiert und ausgegeben wird. Dies ermöglicht die direkte Anbindung von Low-Code-Anwendungen and Sensordaten, die von Natur aus sonst nur schwer verarbeitet werden können. Wenn Sie so etwas einmal selbst ausprobieren möchten, sprechen Sie uns einfach direkt an.



Vielen Dank für Ihre Aufmerksamkeit.

Besuchen Sie uns: <https://ssv-embedded.de>