

OPTIMAL+

Lifecycle analytics you can trust

Lifecycle analytics for reliable electronics

2019



It's a changed world

Technological innovation has transformed our lives.

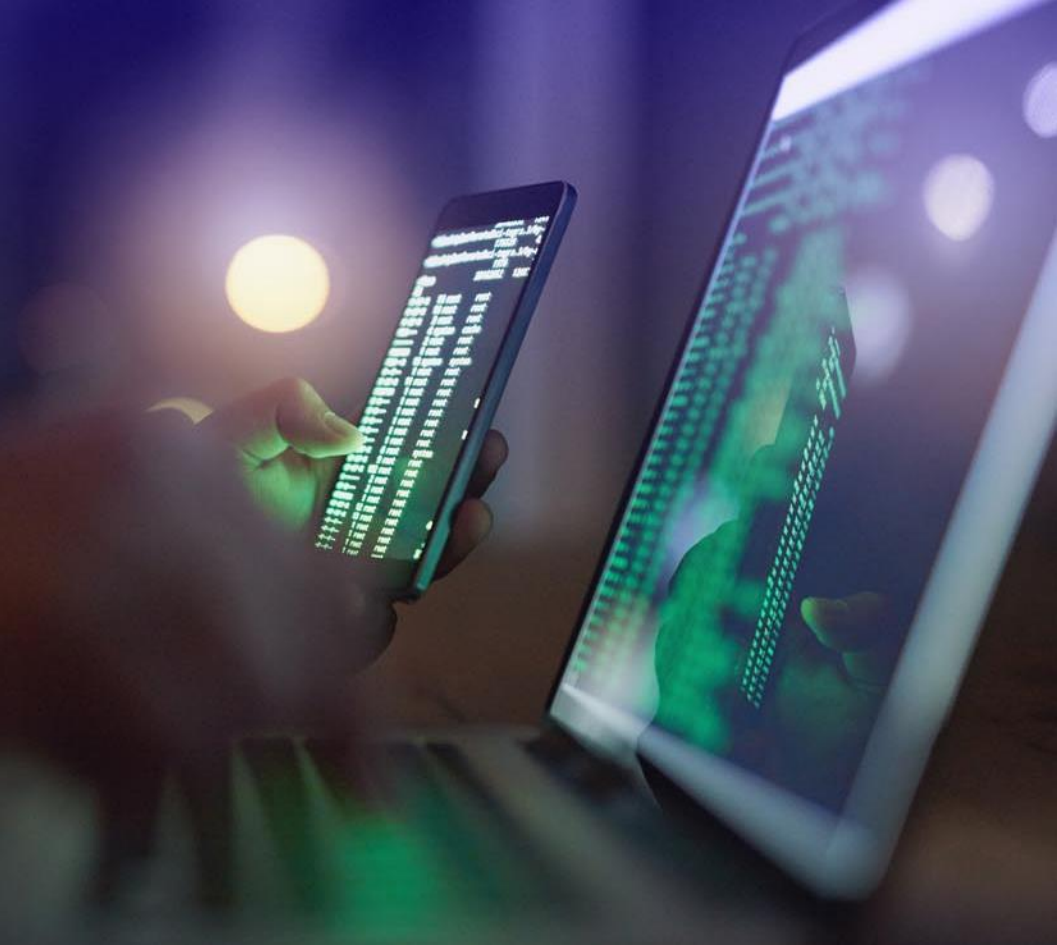
Products and devices are more intelligent and connected.

These products rely on thousands of electronic components.



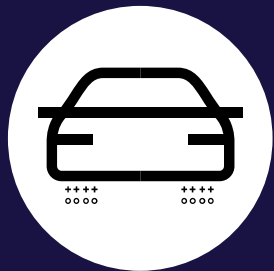
Electronics reliability is critical

Components must be more reliable than ever before.

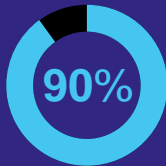


Automotive innovation exemplifies the challenge

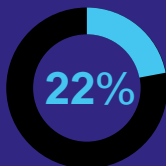




Automotive innovation reliability challenge



car innovations & new features are driven by electronics²



warranty costs related to electronics & semiconductors³



car recall increase from 2014-2016 due to electronics⁴

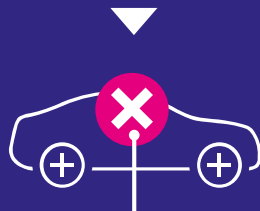


Toyota's gas pedals recall
Ford's failure-to-park recall
Takata's air bag recall

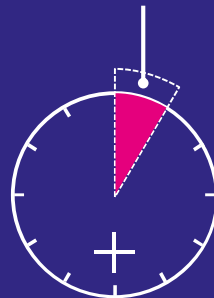


15x Drive per day¹:
1.5hr traditional car vs.
22.5hr autonomous car

Audi says



1 car failure
every hour¹



Reliable electronics is a must



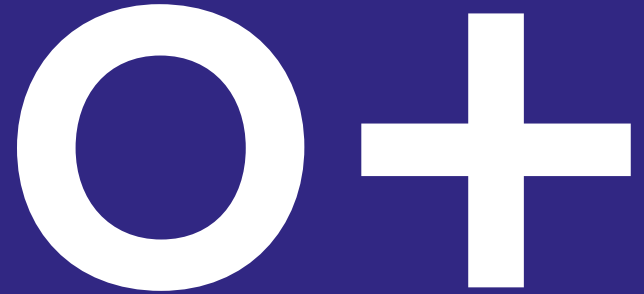
- 1) Audi, DVCon Munich, 2017
- 2) Automotive change drivers for the next Decade, EY, 2016
- 3) BMW - AEC Automotive electronics reliability workshop, 2017
- 4) NHTSA Recall Data

Our role

We deliver unprecedented manufacturing efficiency and reliability to the Automotive, Semiconductor and Electronics supply chains.

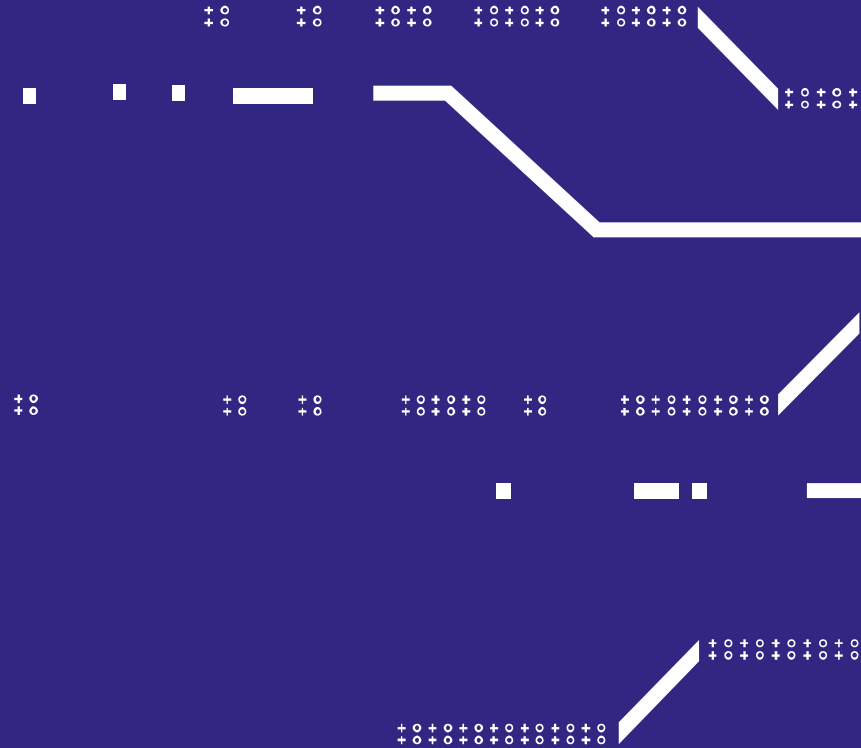
We provide actionable insights through unique data analytics to prevent bad products from reaching the market.

We call it **lifecycle analytics**

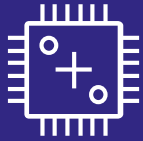


Analyzing huge volumes of data

100bn+
devices per year



Our expertise



Semiconductor



Automotive Electronics



Consumer Electronics
& Computing

Significant business impact

Reliability

50% case
avoidance

Yield

increase
up to
10% NPI
2% HVM

Efficiency

up to **25%**
cost savings

Speed

from weeks
to days
NPI, TTM, RCA



We help our clients transform data into automated actions



Collect

- Data harmonization
- Product, machine and process data

Detect

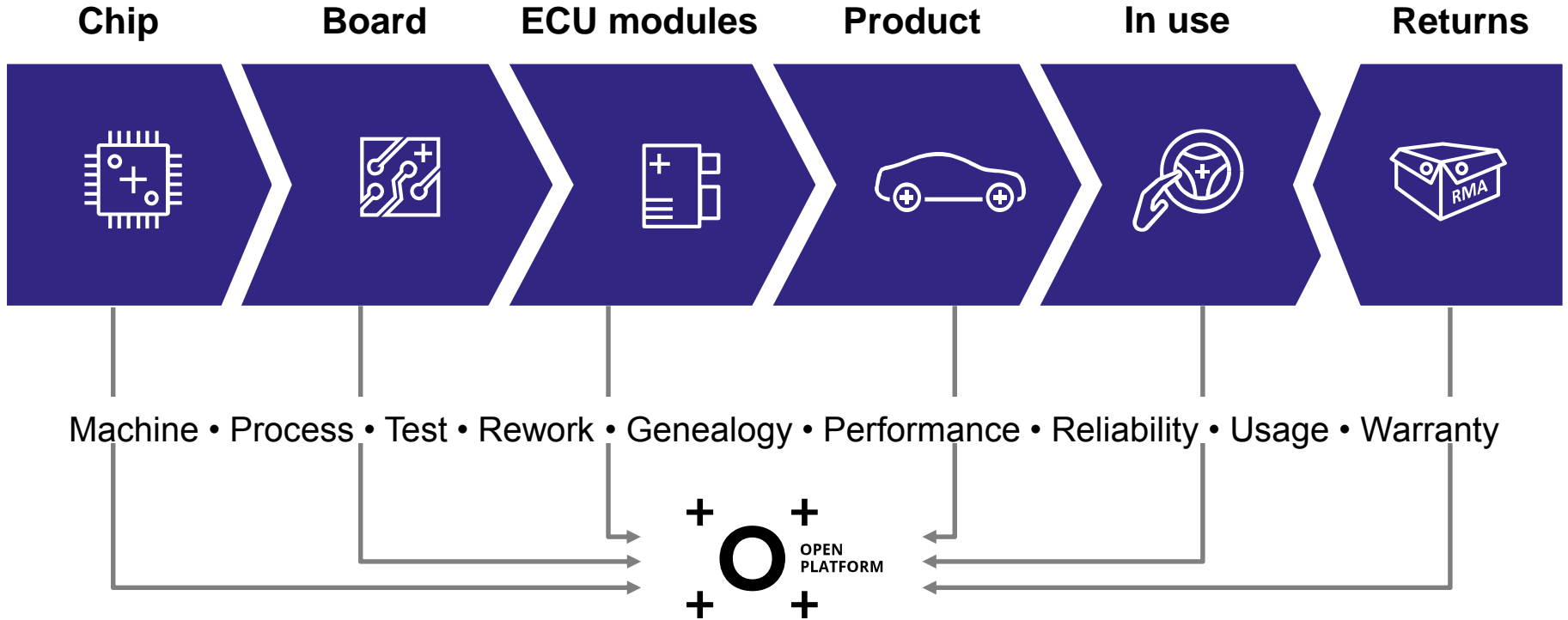
- Prescriptive analytics
- AI / Machine learning
- 24x7 analytics engine
- Real-time

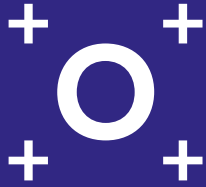
Act

- Automatic
- Distributed
- Controlled



Lifecycle analytics – Following the product journey





Accelerating innovation

Open platform synergistic with any big data strategy

Machine learning | Artificial intelligence | Prescriptive analytics

Trusted by leading brands

Customers

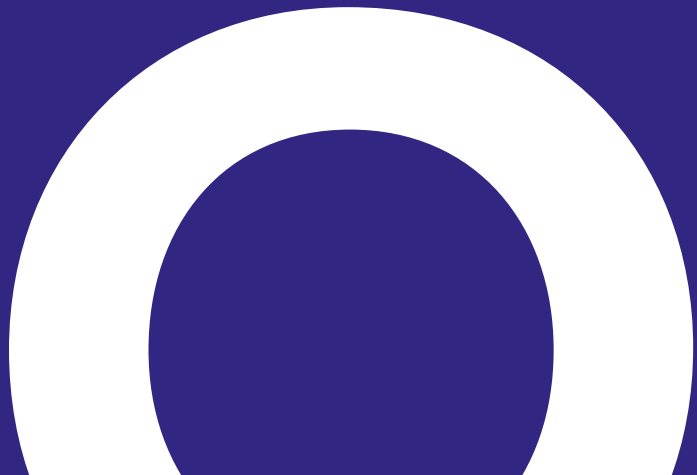


Supply chain



Open platform + Data science + Domain expertise = O+





Thank you

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