Experience report: software quality assurance for vehicle programming

Dipl.-Ing. Michel Loubaresse

Hall 1 Stand 1145

Agenda

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1. ISTEC Company Profile

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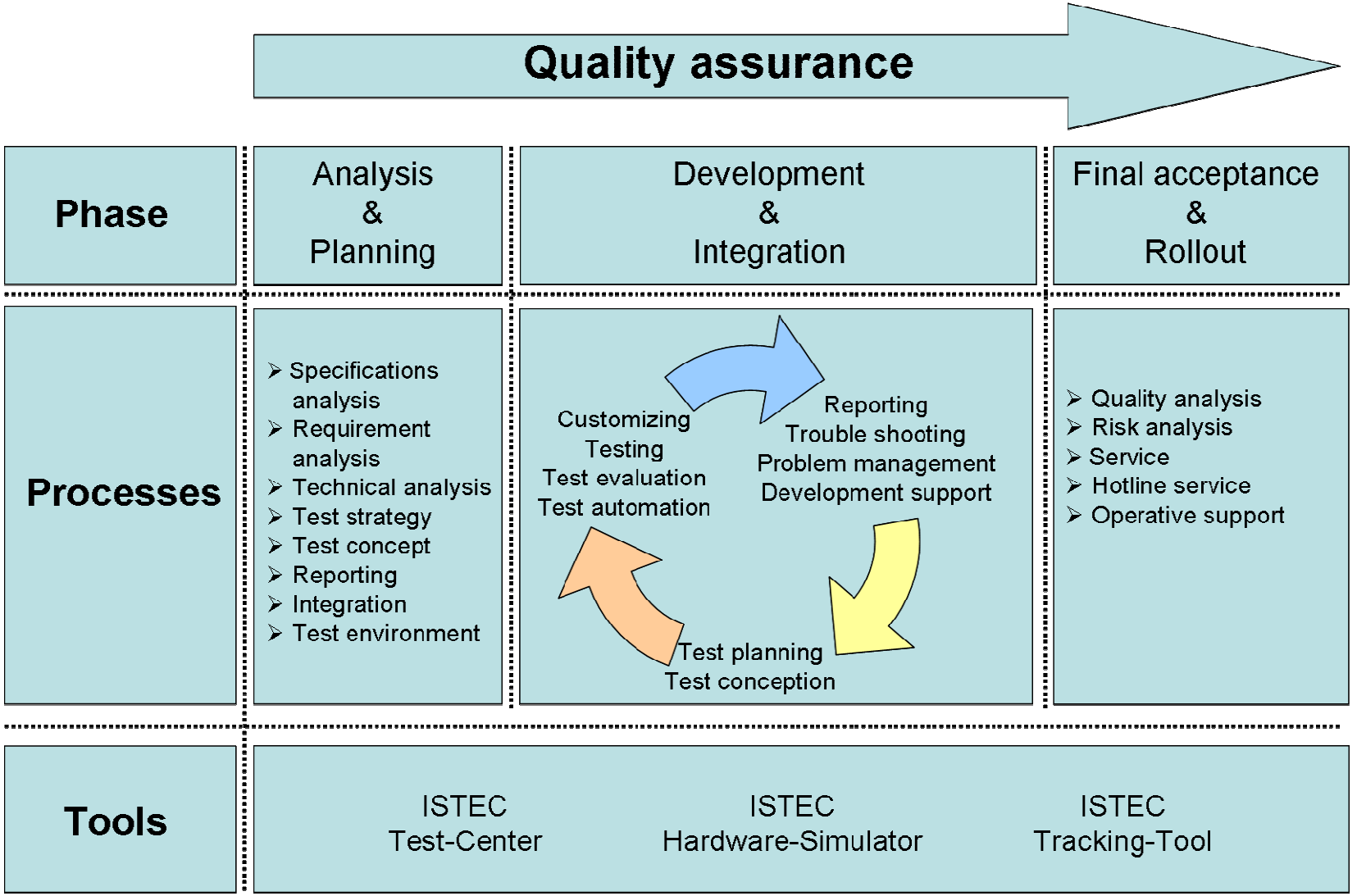
- Independend software and system house
- Since 1982 successful on market
- 60 regular employees
- Development of customer specific solutions
  from the identification of problems up to the system installation
- Offices at Ettlingen (Karlsruhe) and Leinfelden (Stuttgart)

2. Software Quality Assurance – Our services



3. Customer scenario

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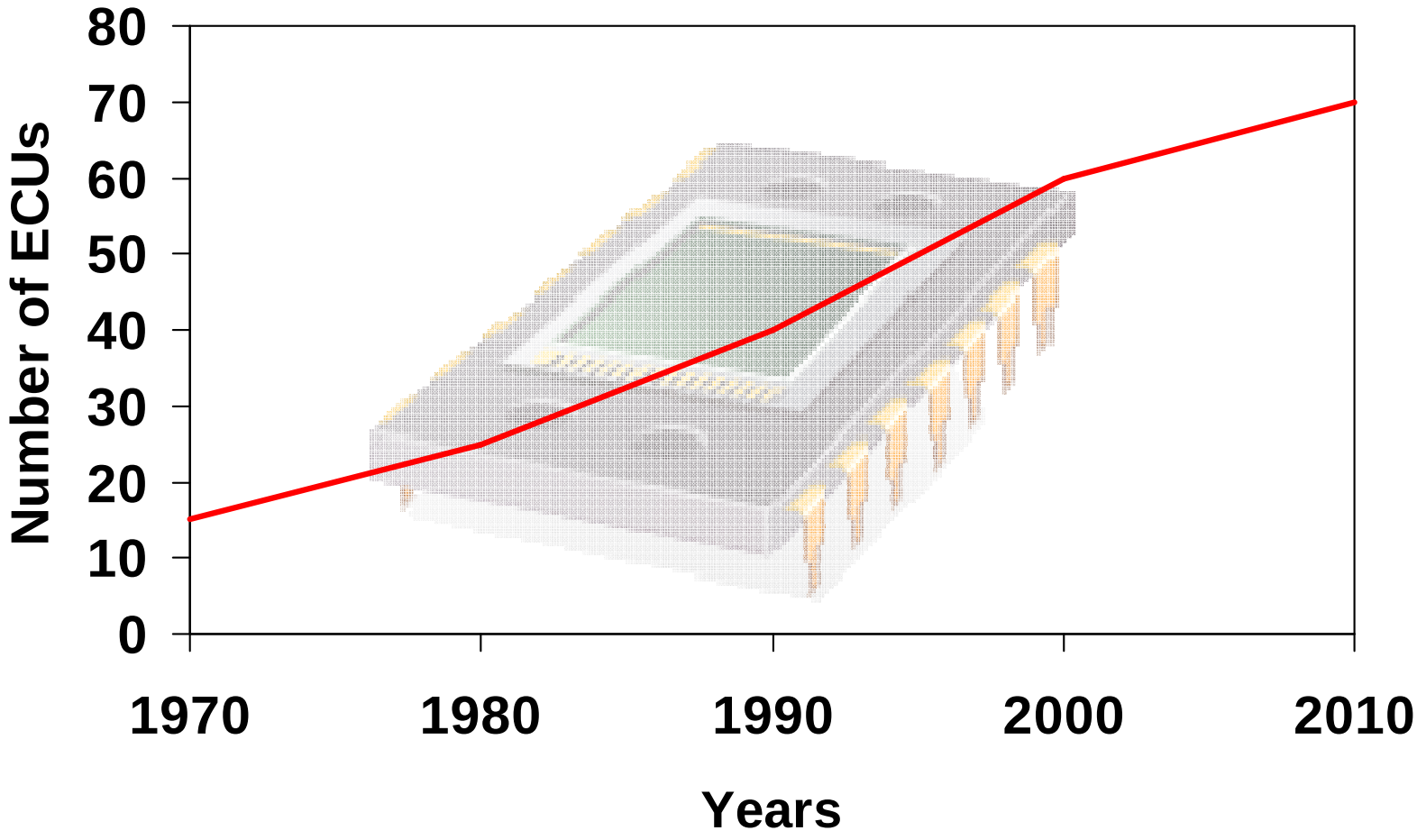
Raising number of electronic devices (ECUs) in passenger cars



3. Customer scenario

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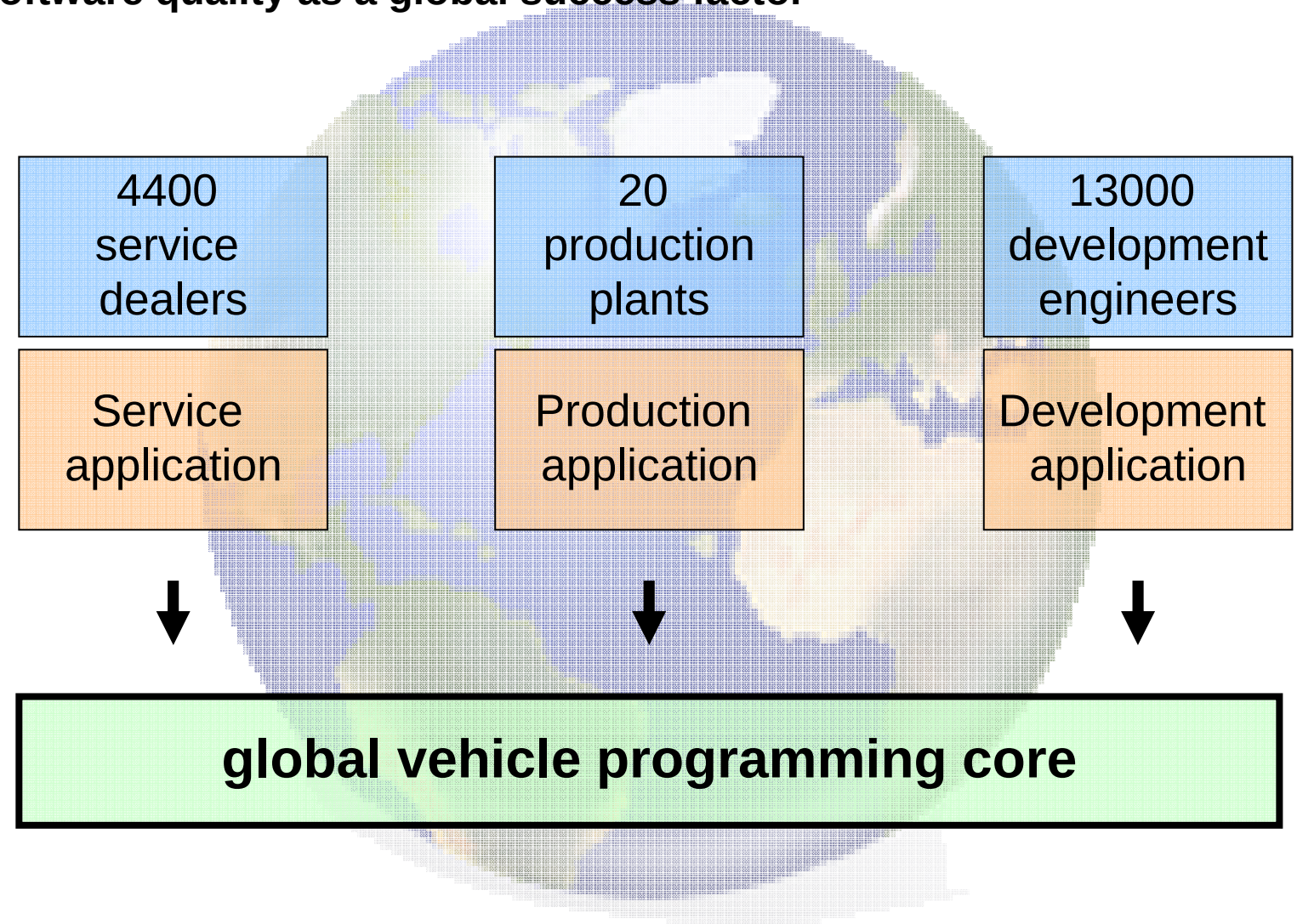
Software quality as a global success factor



4. Customer requirements

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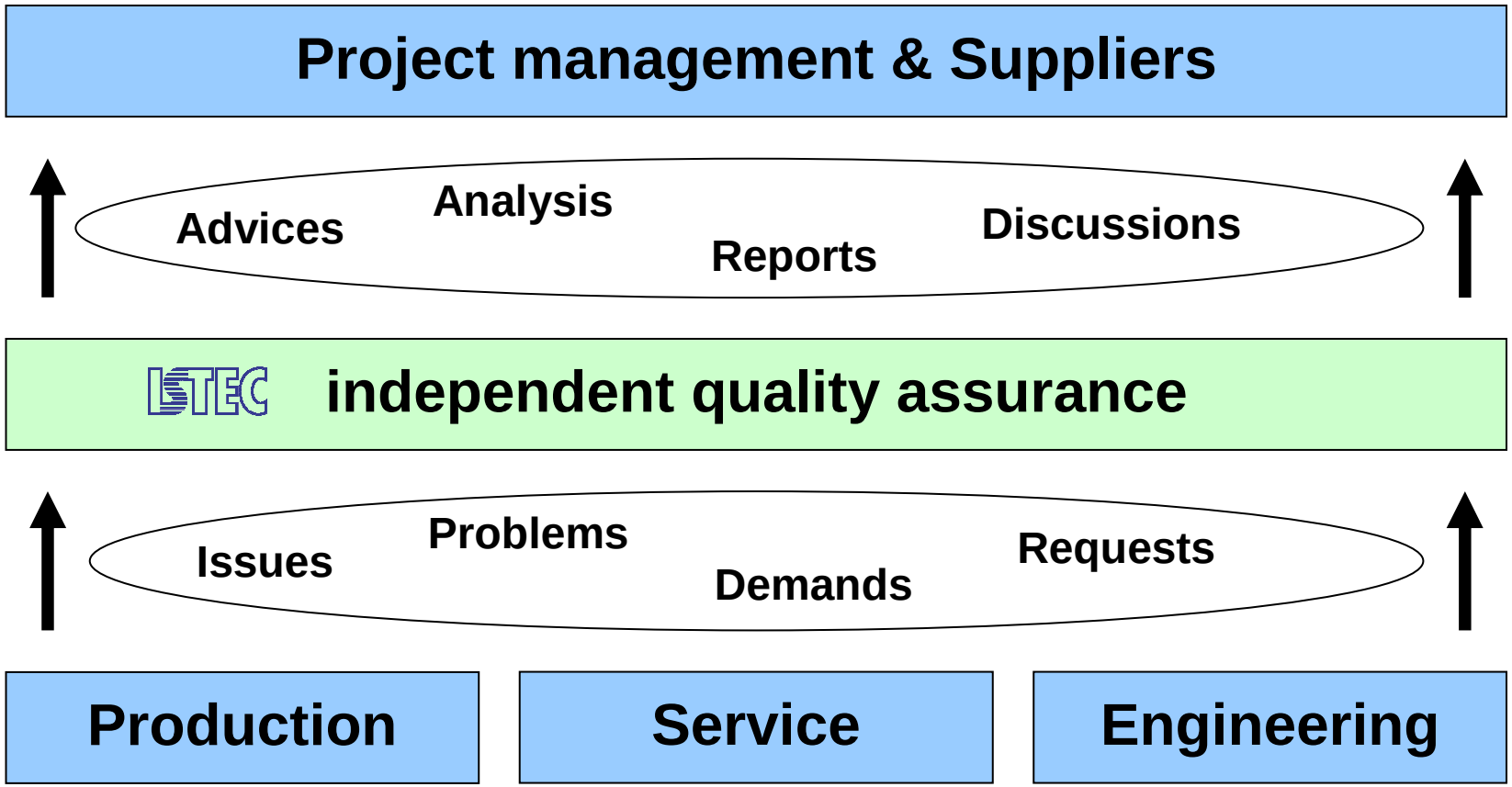
Central role of the quality assurance in the development process



5. Customer solution – Test strategy

Reasons for using test automation & regression testing (Using ISTEC Test-Center)

- Frequent releases
- Highly complex use cases
- High demands on software quality
- Huge failure costs
- Short response time on issues

5. Customer solution – Test strategy

Reasons for using hardware simulation (Using ISTEC Hardware-Simulator)

- Most tests are depending on test hardware
- Lack of test hardware
- Incomplete ECU test networks
- Issue analysis requires the reconstruction of specific error scenarios

6. Customer solution – Test automation

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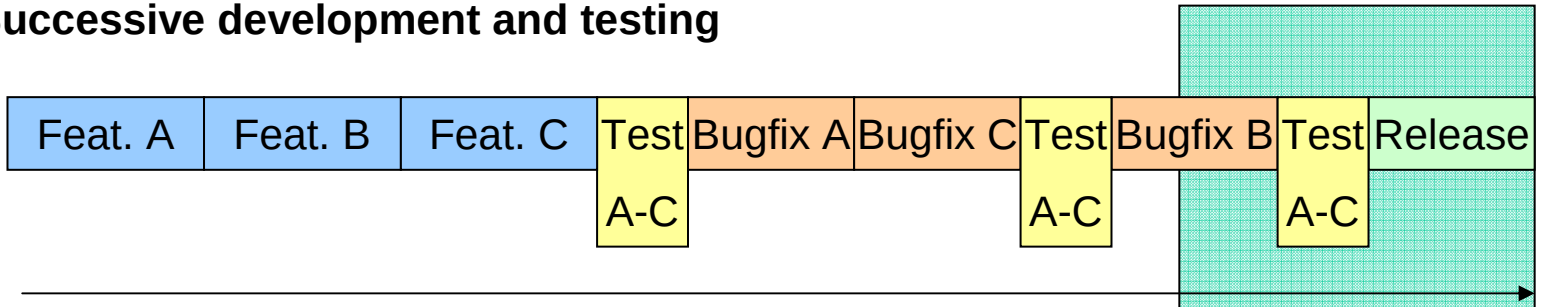
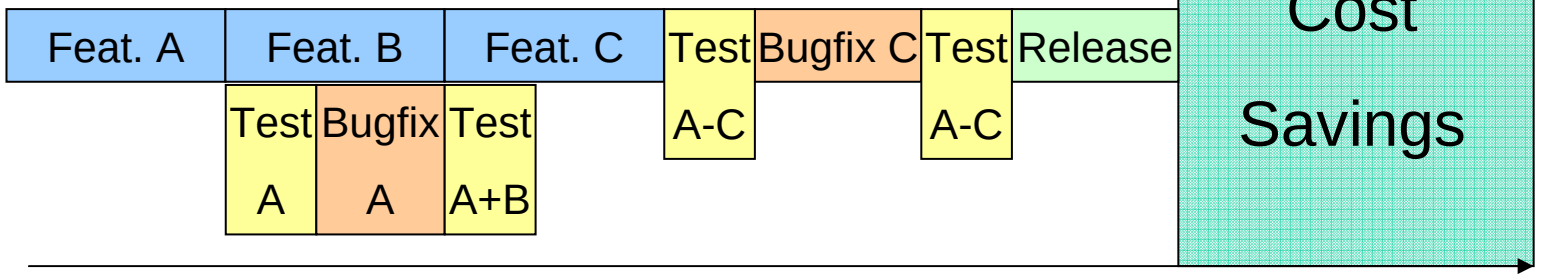
Building and running automated tests at an early state

Successive development and testing

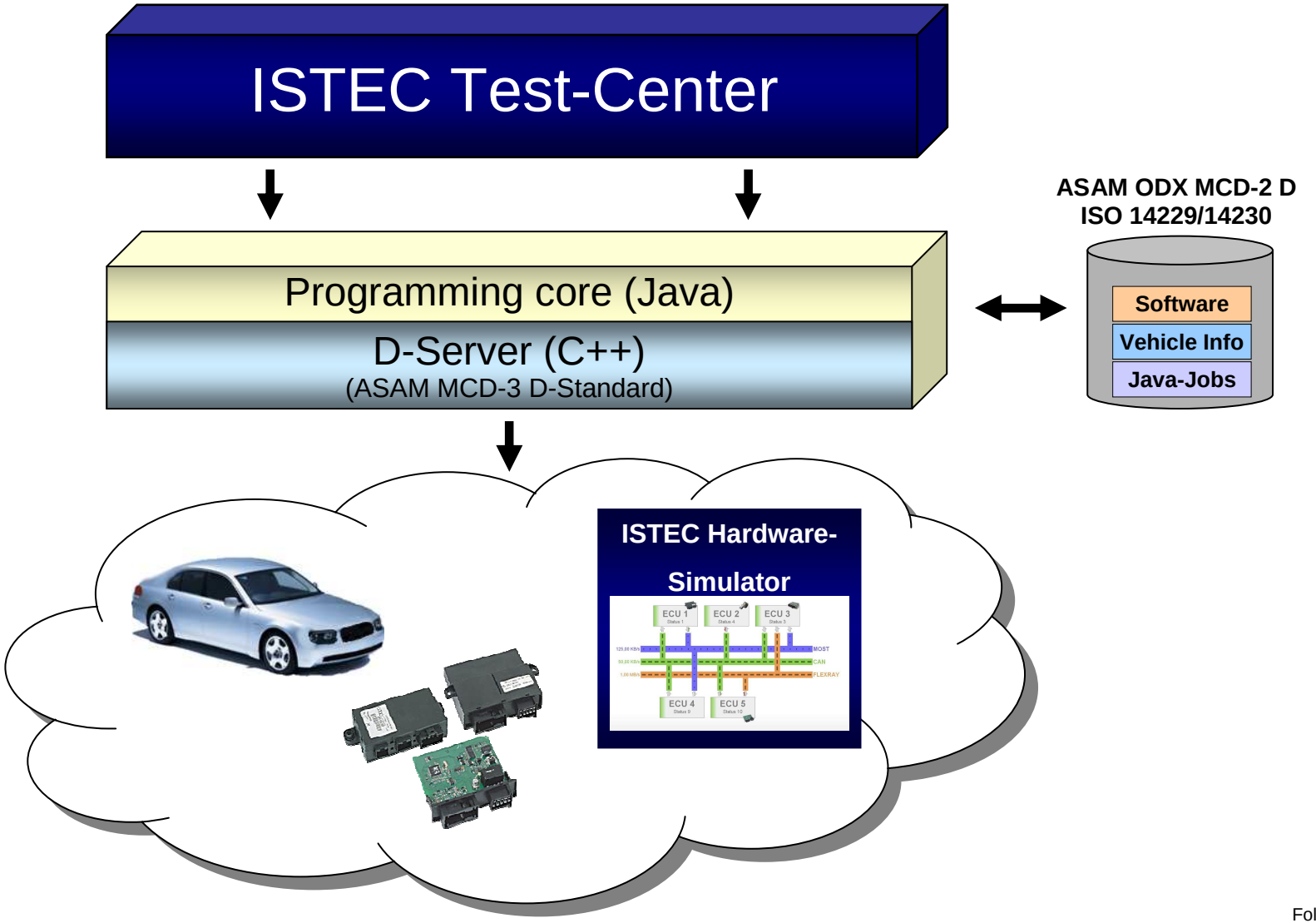


Parallel development and testing



7. Customer solution – Vehicle simulation

Technology and test environment



8. Conclusion

Savings & benefits we achieved with this project

Test hardware

- Up to 60% savings on hardware costs

Testing effort

- Up to 40% savings on test capacity

Development time

- Up to 20% shorter release cycles

9. Announcement

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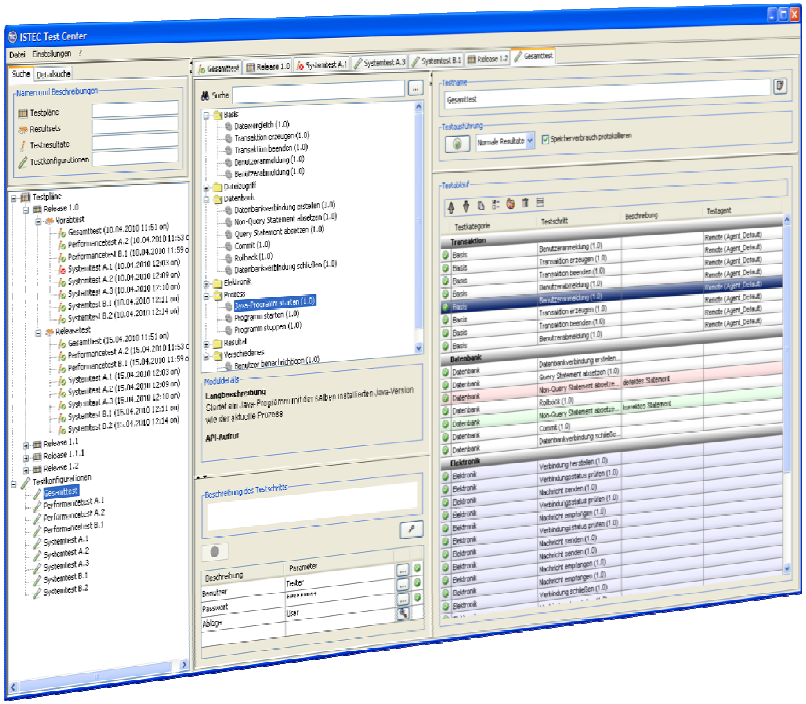
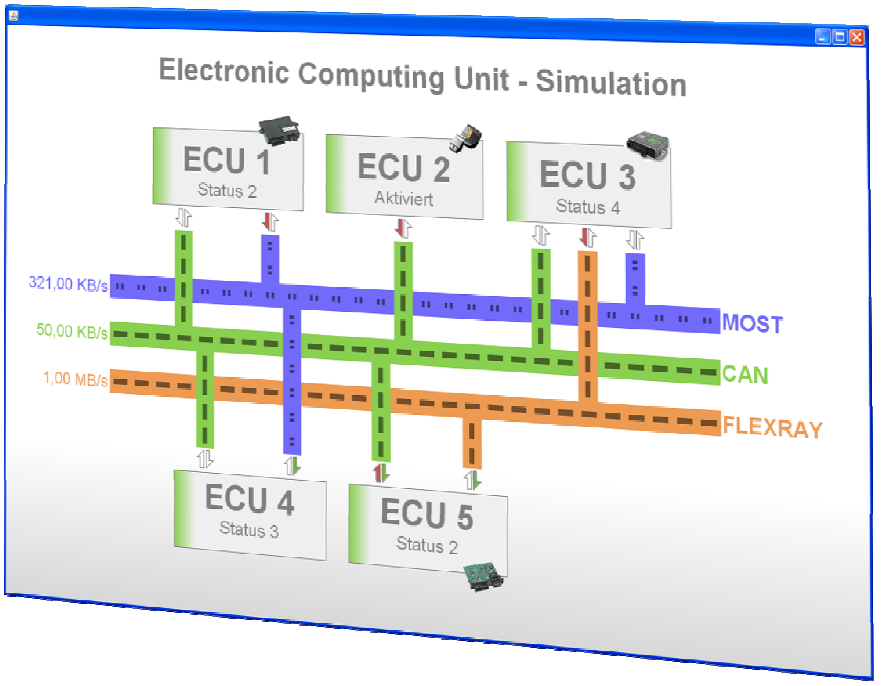
Live demo at the automotive testing expo on stand 1145

ISTEC Test-Center



ISTEC Hardware-Simulator



10. Questions

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Contact

ISTEC GmbH
Michel Loubaresse
Max-Lang-Str 56/2
70771 Leinfelden-Echterdingen
Phone +49 711 160 570
michel.loubaresse@istec.de
http://www.istec.de

Hall 1 Stand 1145