

Engineering

Test/Programming

▶ **Supply Chain Service**

Qualification

Failure analysis

Consultancy

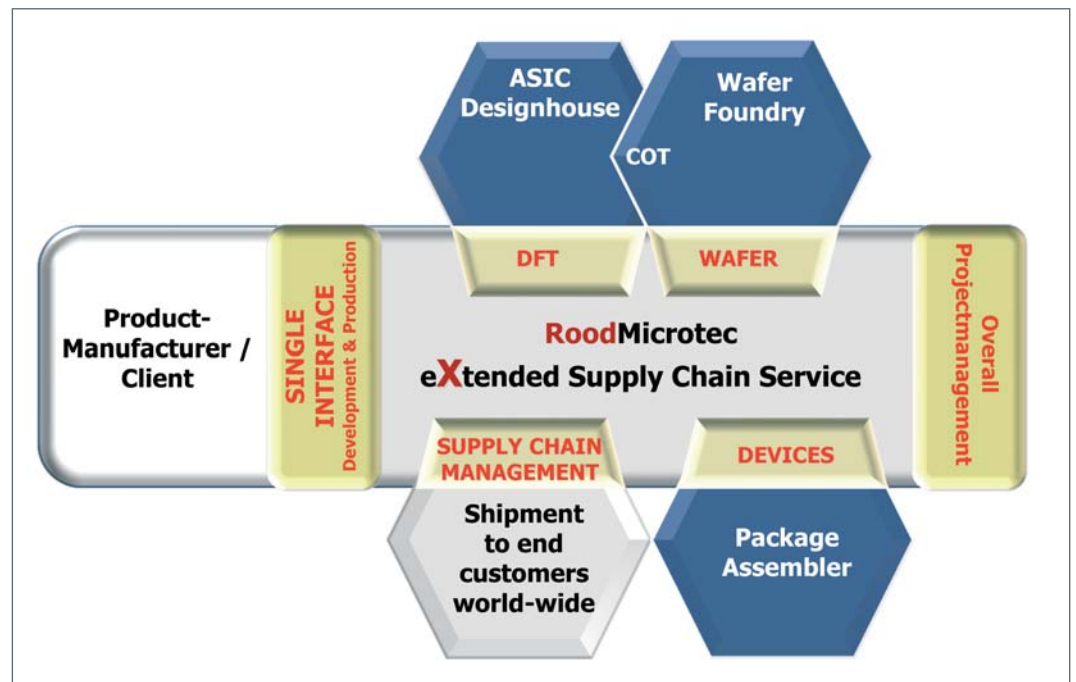


RoodMicrotec
powerful solutions

eXtended SUPPLY CHAIN MANAGEMENT for ASICs and ASSPs

One-stop
service

RoodMicrotec's comprehensive "single stop shopping" service:
from design via industrialization to mass production and shipment control



THE GOAL

Shipment of high quality devices at lowest possible cost – in time

This ultimate goal is never lost out of sight during the entire project phase when having **RoodMicrotec** in the driver seat.

What's more, due to involvement of test engineers already in the design definition phase, techniques like Design for Testability (DfT) finally become reality not only for projects run by IDMs within integrated environments.

THE CONCEPT

Each application, each project is unique...

...resulting in unique requirements for technology, IPs, design experience, operating environment, package and volume.

Based on your specific project, **RoodMicrotec** puts together a team of partners providing the best match for each involved discipline. A single customer interface combined with an overall project management enables transparent communication.

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From design
to volume
shipment



THE RESULT

Production orientated ASIC development with smooth transition to volume production

- Providing overall project management from the beginning
- Selecting a chip design house familiar with the selected foundry and process, having access to design rules, libraries and IPs
- Selecting the best fit of process properties and foundry providing such process
- Defining the best package for the application environment, handling and cost
- Selecting the package assembler matching your package and volume requirements
- Influencing device quality and price by bringing test engineers and chip designers together for DFT (design for testability) discussions before the chip spec is frozen
- Speeding up prototype characterization and debug using failure analysis methods
- Offering fast FIB silicon modification if required
- Developing hard- and software of the test environment
- Qualification, (Monitored) Burn-In
- Taking care of the industrialization process: yield optimization
- Offering supply chain management: from wafer procurement, logistics, to shipment

YOUR BENEFITS

The best of two worlds: Single Stop Shopping while maintaining full flexibility

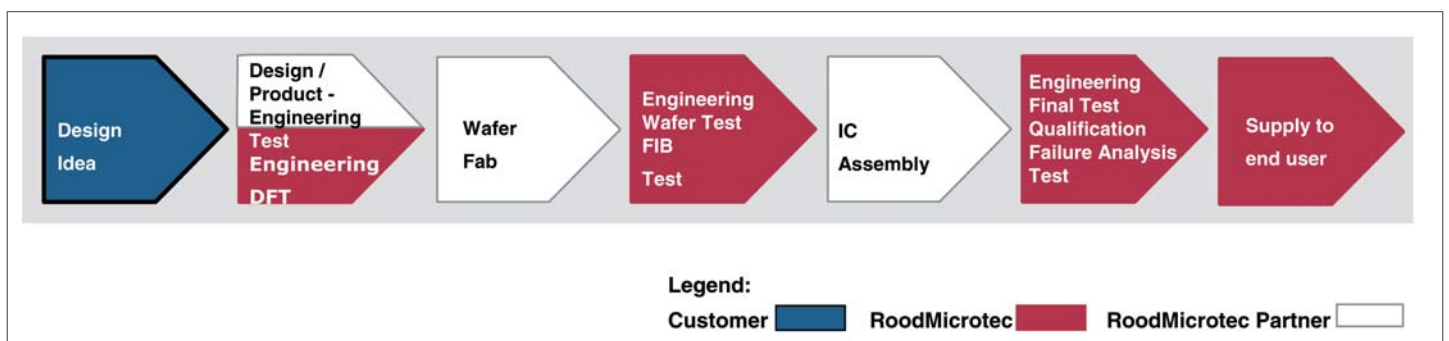
- **RoodMicrotec's eXtended SCM** concept offers a full turnkey service **plus**
- Full flexibility for choosing experts for each specific project

Communication is crucial

- Overall project coordination from the very beginning to production ramp up – using the same interface
- Transparent status for the customer and all involved parties by online order status access
- From start of mass production RM supply chain project management takes over

Risk/Schedule/Cost Balance

- For each project situation a unique set of these restrictions is relevant
- Holding the overall control, **RoodMicrotec** can optimize the overall flow by matching this set based on your requirements



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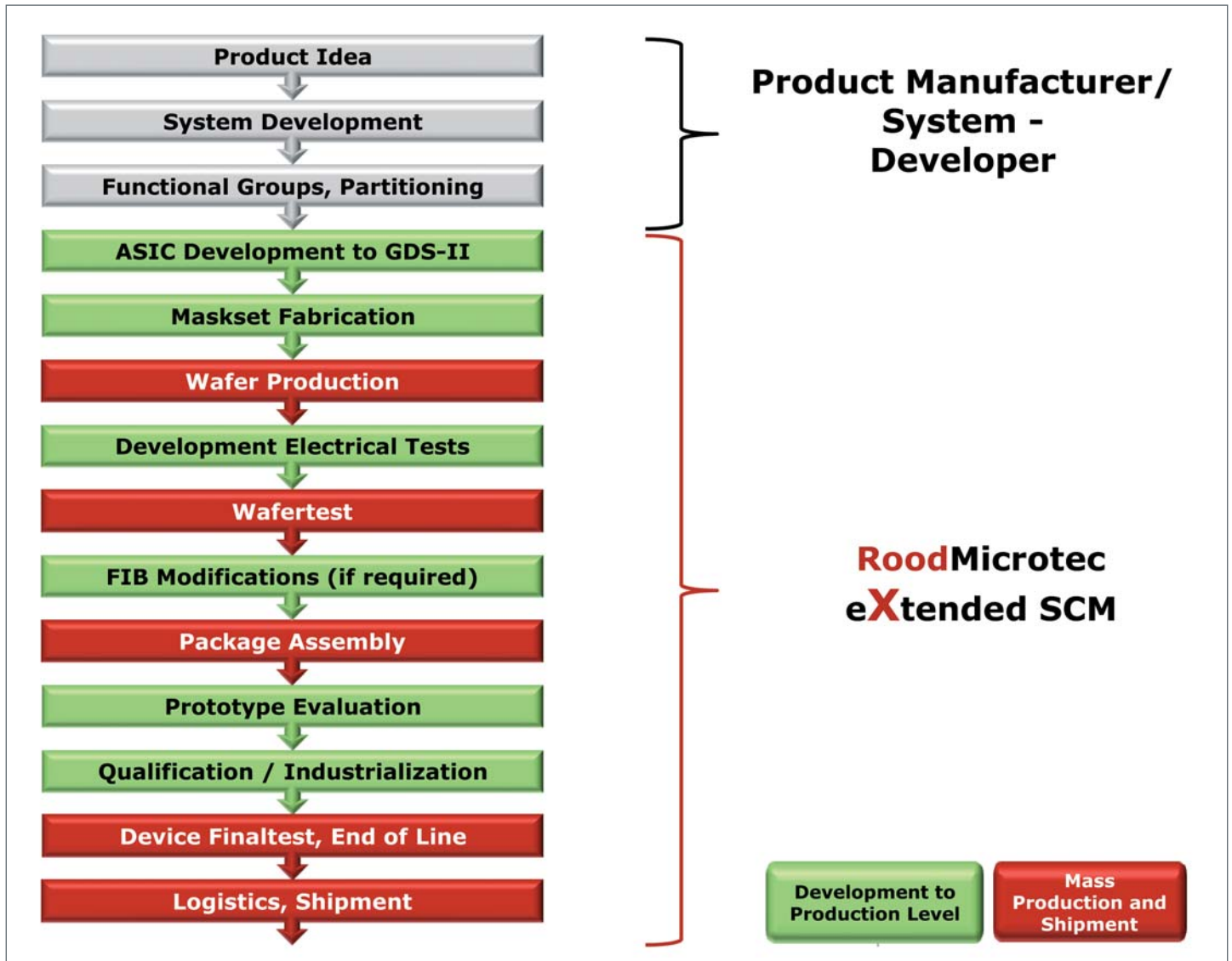
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SCOPE of SERVICES



eXtended Supply Chain Management already begins in the chip specification phase – thus our experienced test engineers can work together with the ASIC design engineers on a test concept targeting the selected test environment, potentially adding appropriate functional blocks to the ASIC. This DfT (**Design for Testability**) method can contribute significantly to higher yield and shorter test times once the device is in mass production.

Evaluation of the first silicon is a very critical phase for the overall schedule. Should chip modifications become necessary, a trial on silicon gives high confidence for a mask revision decision. **RoodMicrotec** offers **FIB** (Focused Ion Beam) service for **rapid silicon modifications**. Being an integral part of the overall eXtended SCM concept, no time is lost in this hot phase.

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Quality
assurance
worldwide



Competence
by experience

DIN EN ISO/IEC 17025

ISO TS 16949

DIN EN ISO 9001

DIN EN ISO 14001

TRANSFER TO PRODUCTION

Once the development and industrialization phases have been completed, the ASIC/ASSP is released to production. The transition is smooth:

RoodMicrotec's supply chain management team takes over the control of order processing, production handling, logistics and shipments.

Supply chain service for small series and mass products

We cooperate with certified sub-contractors and keep direct contact with foundries and assembly houses in Europe and Asia Pacific

Our supply chain service is tailored for

- ASICs and ASSPs
- Optoelectronic components like image Sensors, VCSELs, LEDs

Professional service with reliable equipment

- Wafer probing and final test with test systems from Advantest, LTX-Credence and Teradyne
- Handling systems supporting automatic component test
- Burn-In and Monitored Burn-In: the reliable way to select early failures
- Clean room class 1000

RoodMicrotec offers automated functional tests within temperature range from -40°C to +150°C. Manual tests can be performed from -85°C to +225°C

Additional services

Characterization
Screening
Upscreening
Chip repair (FIB)
Qualification consulting
Qualification
Failure analysis, handling of field returns
Logistics for obsolete components
Transfer of equipment and test activities

Reliability by quality assurance

Quality is our key competence. Our services are based on professional measurements including process definition and documentation.

RoodMicrotec is an acknowledged service provider in the industry for quality assurance of electronics and optoelectronics.

We stand for certified and independent results in test, qualification and failure analysis and therefore provide reliable technical consulting.

Rely on our experience

RoodMicrotec performed a large number of successful national and international projects and plays an active role in various standardization committees.

Our mission is to provide our customers with one-stop quality service.

Challenge us!

We look forward to your inquiry.

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