What is OSADL?
What does OSADL?

Carsten Emde, Rainer Thieringer
Open Source Automation Development Lab
(OSADL) eG
OSADL started as a “purchase community” of Open Source software. Today, OSADL delivers whatever is needed to use Open Source software in industrial products.

In other words: OSADL helps companies mitigate the risk of using complex systems that can no longer be handled by a single company alone.

Main topics:
- Real-time Linux, real-time network communication
- Quality assessment of Open Source software systems
- Safety certification of pre-existing software
- License compliance, product audit, process audit
OSADL Growth

What is OSADL? What does OSADL?
Automotive Grade Linux, Face-to-Face meeting, April 12, 2018
Microchip Technology offices, Karlsruhe, Germany
Industries of OSADL members

- Semiconductor manufacturers
- User associations
- Hardware manufacturers
- Software manufacturers
- FOSS/Linux service providers
- Industrial users
What does OSADL? For example: Real-time Linux

• Origin: Initiatives of OSADL member companies from 2004 onward
• Project launch: Provided about 300,000 US-$ initial funding in 2015 as a prerequisite for a Linux Foundation project
• Handover: To the Linux Foundation Real-Time Linux Collaborative Project in 2015
• Dissemination: Journal articles, seminars, workshops, in-house training, consulting, academic teaching
• Networking: Annual Real-time Linux Workshop (RTLWS)
• Diagnostic tools: Kernel extensions to trace individual latency sources
• Showcase: More than 150 Linux real-time systems at the OSADL QA Farm
• Quality assessment: Industrial users trust OSADL’s quality data
What does OSADL? For example: Safety

- OSADL Safety-critical Linux working group founded in 2008
- SIL2LinuxMP project launched in 2015, Route 3S, IEC 61508, SIL2, Multi-core processor
- Now in phase #3, members BMW, Bosch, Elektrobit, Hitachi, Intel, KUKA, Linutronix, STW
- Final certification phase #4 to be launched soon
- Consulting TUEV Süd, Certifying TUEV Rheinland
- Created more than 500 MByte of tools, data, documents and processes
- Successfully submitted more than 150 Linux kernel patches to improve code quality
What does OSADL? For example: License compliance

- License Compliance Audit (LCA)
- Supplier License Compliance Audit (SLCA), was basis of the LF OpenChain initiative
- Large collection of legal FAQ, answers provided by copyright expert lawyer Till Jaeger
- Several legal assessment on particular topics such as kernel modules and redistribution of a Linux distribution
- Open Source License Obligations Checklists (OSLOC) project
- OSADL Scanbook with Linux kernel delta detection tool and related database
- Regular seminars, workshops and training courses on legal aspects of Open Source software
AGL + OSADL = Benefits for all of us

Real-time Linux

• Foster the activities to merge the still off-tree real-time patches into mainline Linux
• Increase the community to provide long-term maintenance of real-time Linux
• Participation in the Linux Foundation Real-Time Linux Collaborative Project

Safety-critical Linux

• Combine the expertise of more participants and consider more safety domains to further improve processes and strategies of the SIL2LinuxMP project