ROS-I Unique combination
Thomas Linde

KEBA

Automation by innovation.

Agenda

Short company presentation

KEBA Robotic solutions

Unique combination and integration

Outlook and opportunities

KEBA
Automation by innovation.

Who are we?

- Industry experts in automation
- Founded in 1968
- Active worldwide
- In private ownership

- 250 million euro turnover
- 87% export
- 20% R & D rate
- 1100 employees

KEBA®
Automation by innovation.

Mission

VISION 21

Technologies of KEBA
help people to make the world
of life and work easier.

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KEBA
Worldwide

Delem BV
NL-Eindhoven

KEBA GmbH
DE-Bonn

KEMAS
DE-Oberlungwitz

KESAT a.s.
CZ-Jihlava

KEBA GmbH
DE-Göppingen

KEBA AG
Linz / Austria

EUROPE

KEBA Corp.
US-Valparaiso

KEBA Italy
IT-Milano

KEBA S.R.L.
RO-Bucharest

AMERICA

KEBA Türkiye
TR-Istanbul

ASIA

CBPM-KEBA
CN-Beijing

KEBA Korea
KR-Seoul

KEBA Japan
JP-Tokyo

KEBA Ltd.
CN-Jinan

KEBA Ltd.
CN-Shanghai
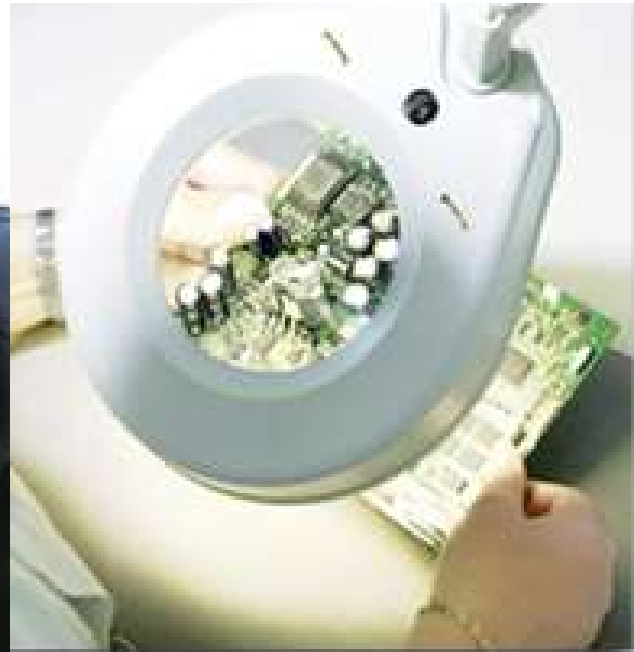
KEBA Ltd
CN-Ningbo

KEBA Ltd
CN-Guangzhou

KEBA Taiwan
TW-Taipei

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50 years experience in electronic and software

- System Consulting
- Software development
- Hardware development

- Field quality
- Own Produktion
- Customer support network

Flexible production

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Industrial automation

Innovation

Partnership

Quality

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Customers who trust KEBA

KeMotion

The complete solution for the automation
of robots and machines

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Market leader in TP

KEBA®
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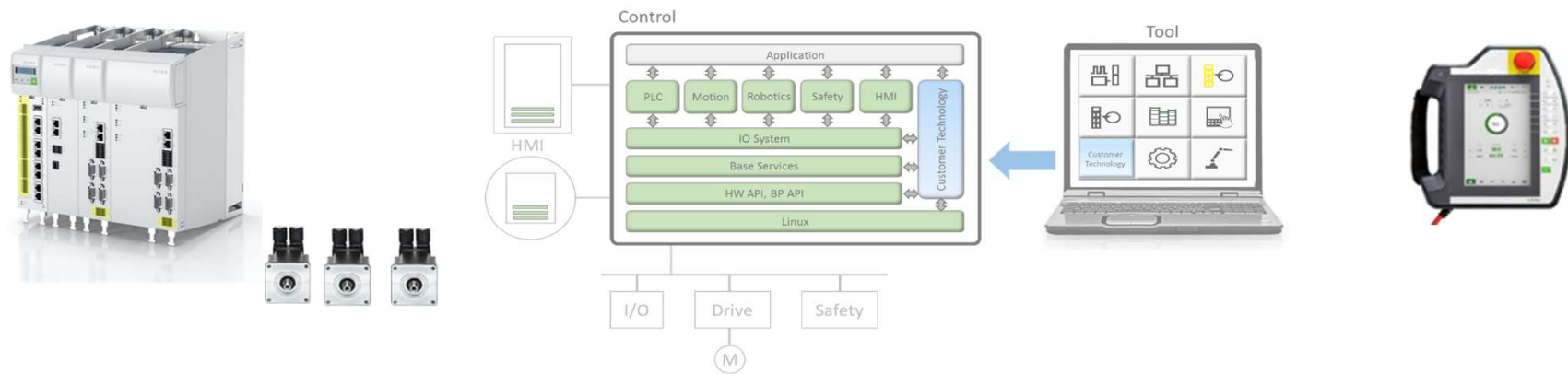# Innovative and easy to use

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Automation by innovation.
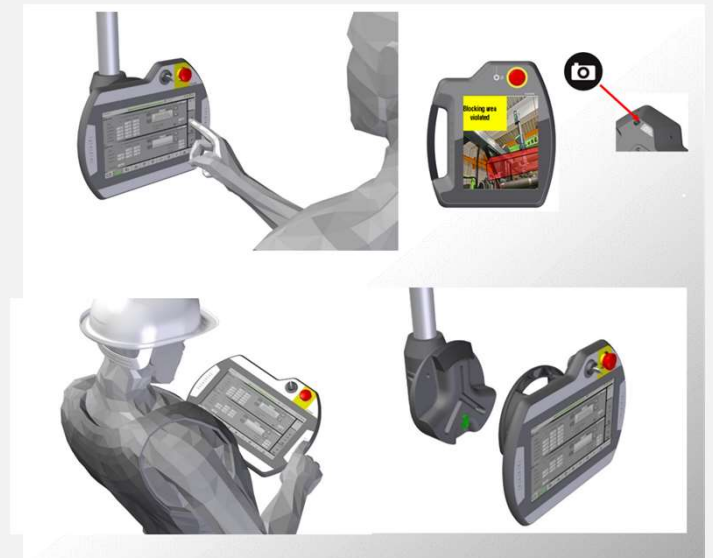
KeMotion – total robotic solution

KEBA
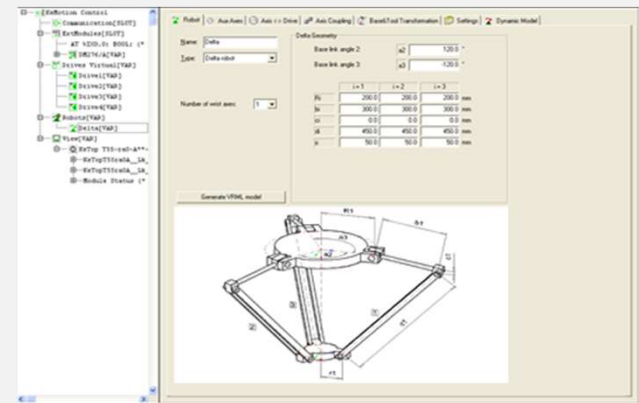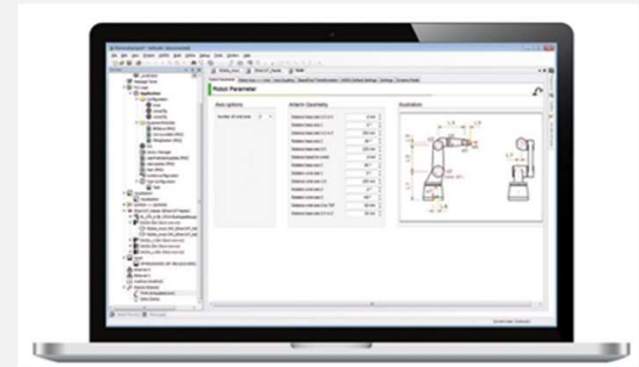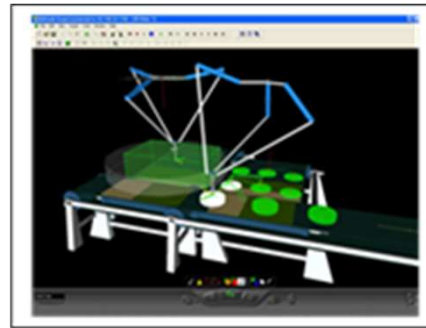Automation by innovation.

KeMotion – easy and fast

Easy robot configuration

in dimension, axis and mechanical couplings.

Easy setting and program generating

Simulation tool

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Precise movement and combination

Dynamic robot model

Ready to use Libaries

Online calculation

PLC + Motion

Codesys + PLC open

Wizards

Consideration of elasticity

KeMotion control

Motion control unit
- Elasticity compensation
- Torque limiter

Position values →
← Torque values

Dynamic robot model

Position values ↓

Torque values ↓

Drive control with torque feed forward control

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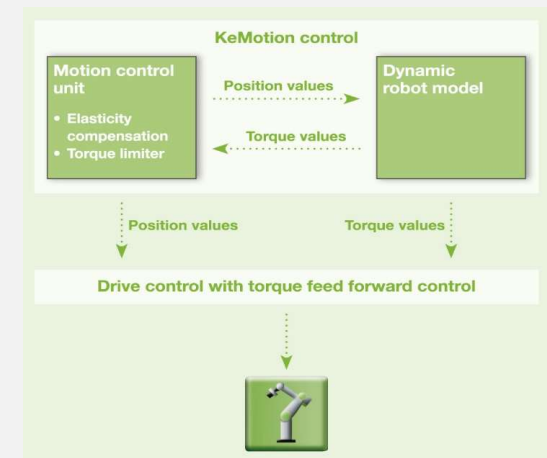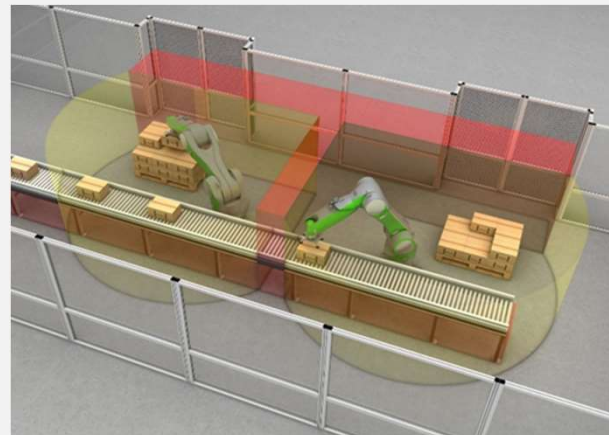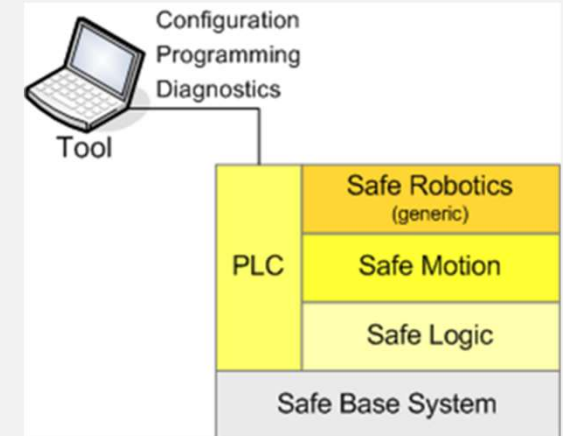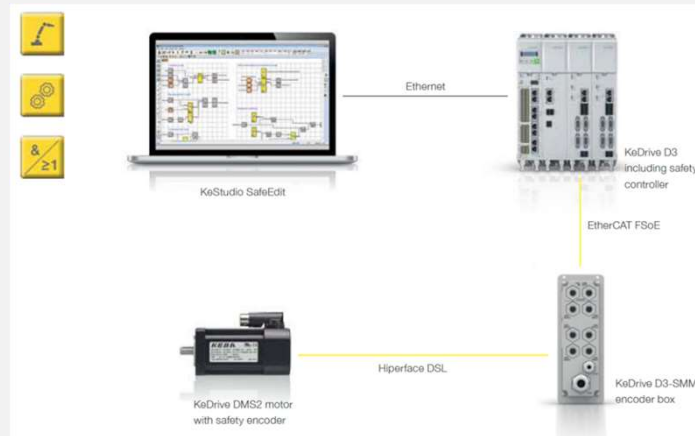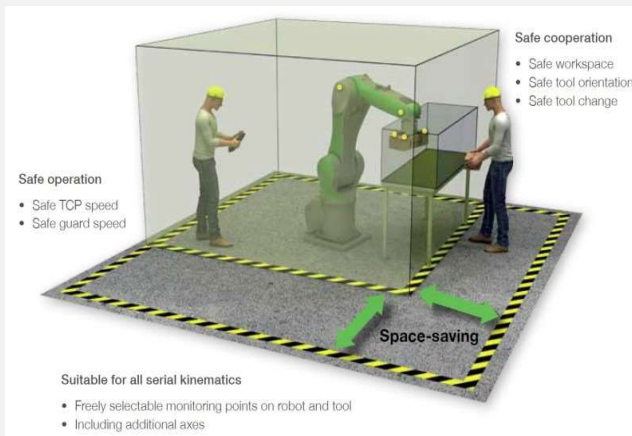
KeMotion – Safety

- Safe robot standstill
- Safely limited Cartesian speed
- Safe zones, safety limited Cartesian position
- Safe tool orientation
- Safe Changing Unit and Safe Tool
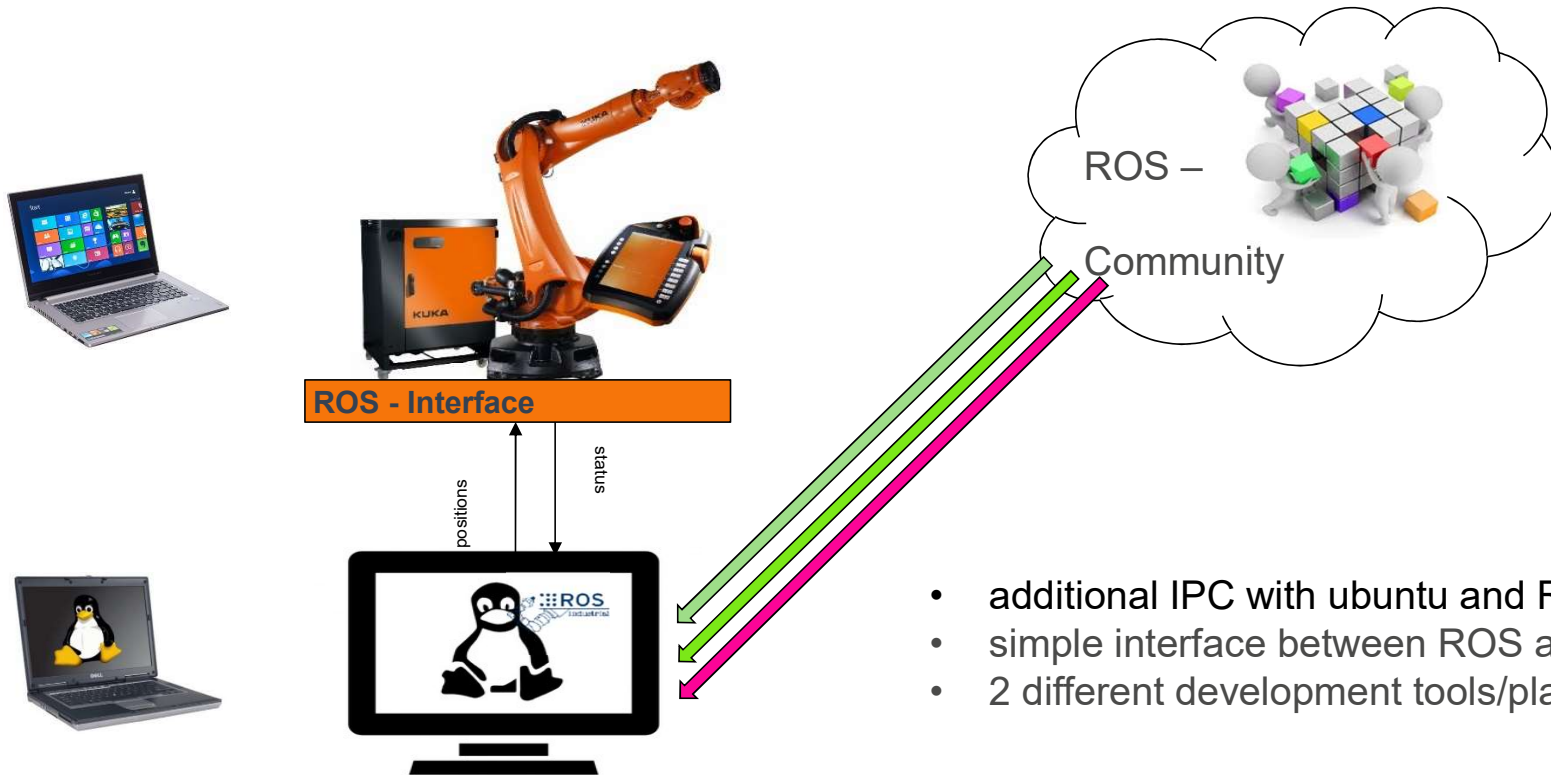
KeMotion for a wide range of applications

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Open Source is not new to us

KEBA - ROS

ROS
industrial

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Standard market solution

ROS - Interface

ROS –

Community

positions

status

- additional IPC with ubuntu and ROS necessary
- simple interface between ROS and robot controller
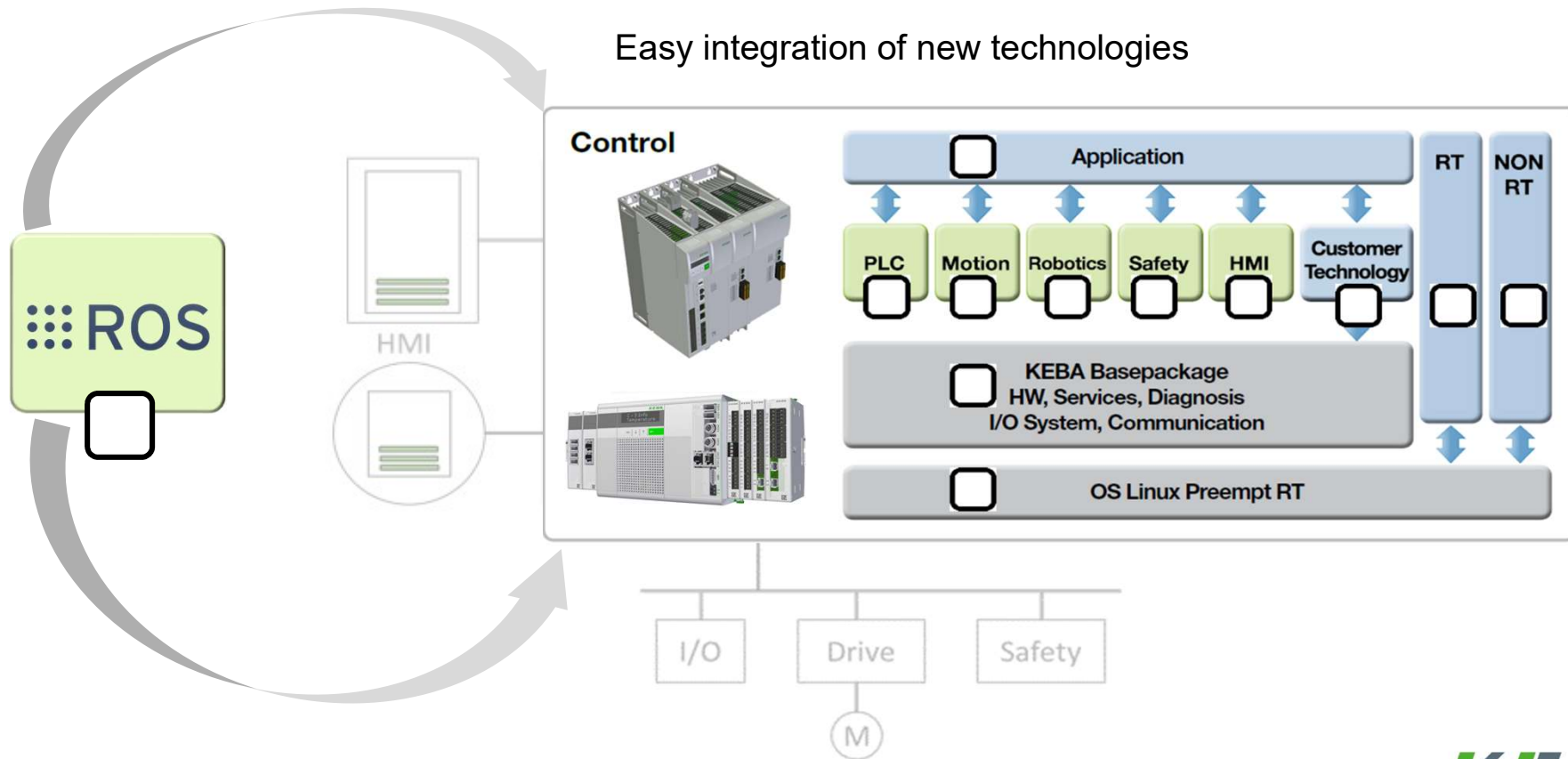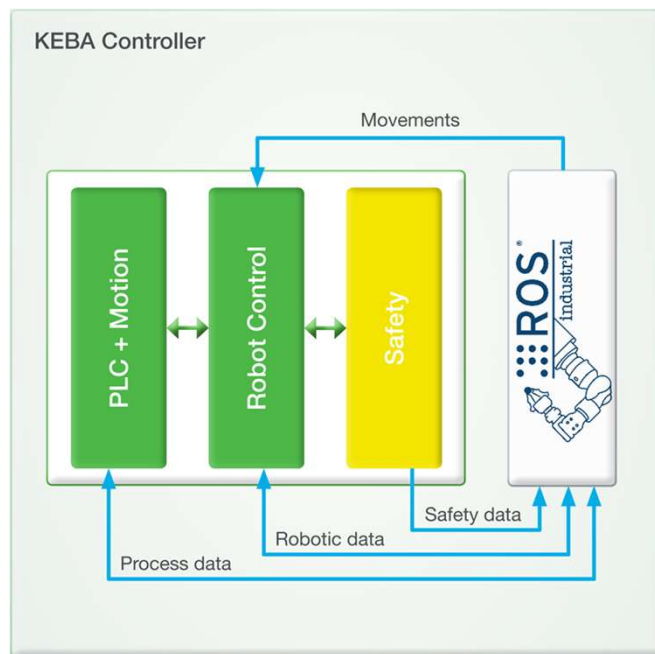- 2 different development tools/platforms (Windows/Linux)

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Unique integration

ROS –

Community

1 Tool   +   1 Control unit

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Open control architecture

Easy integration of new technologies

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Basics

Deliver a versioned collection of the main ROS packages

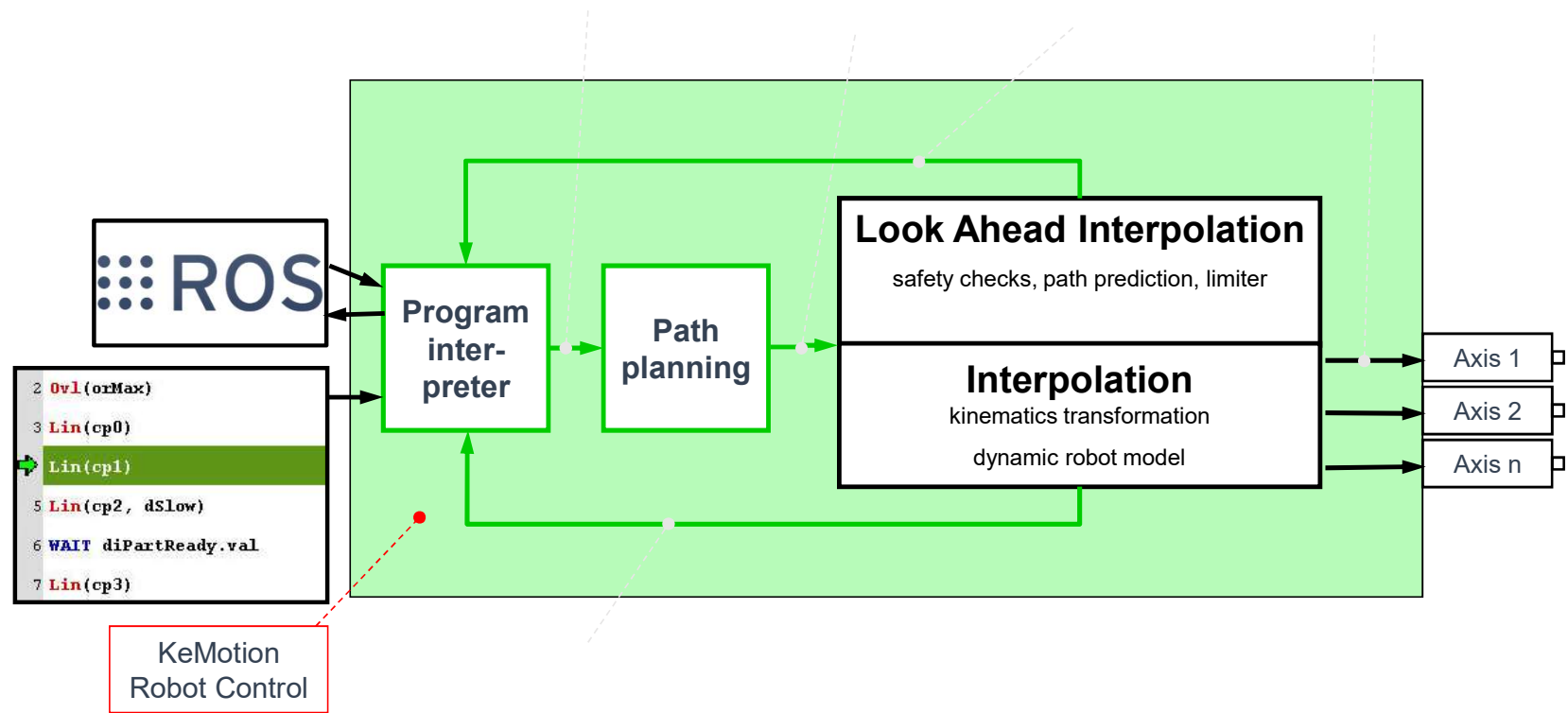- ✓ ROS Softwareunit
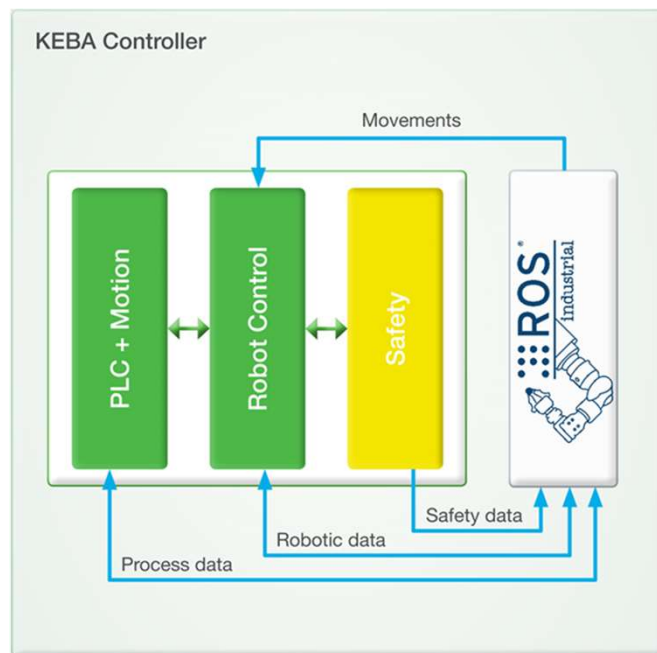
Offer a possibility to move the robot out of ROS

- ✓ Deliver an interface to our Robot Control

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Integration of ROS

Additional features

KEBA Controller

Movements

PLC + Motion — Robot Control — Safety

ROS Industrial

Safety data
Robotic data
Process data

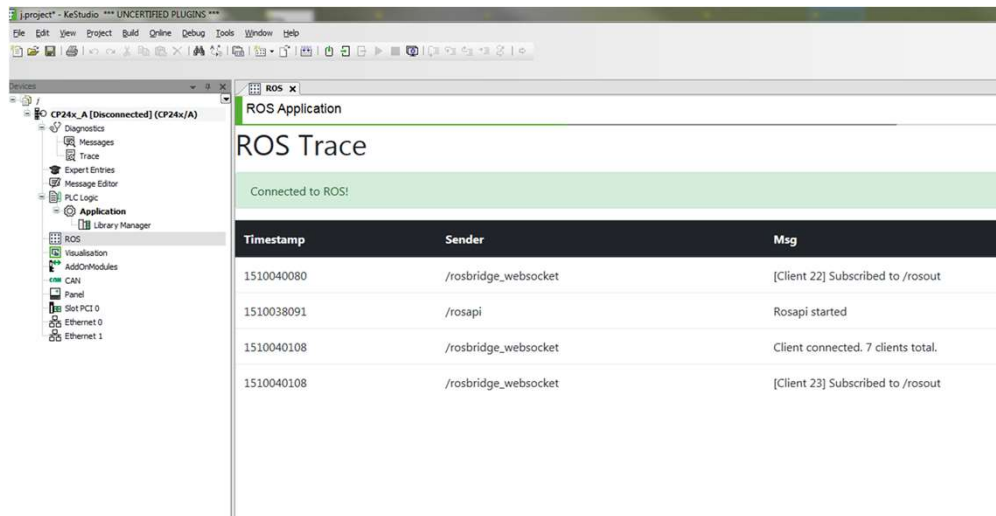**Offer a possibility to trigger PLC applications out of ROS**

✓ Establish an ROS-interface to our PLC variable-tree

Offer an easy to use "rmi_driver"

✓ support Cartesian movement / positions
✓ Muli robot support
✓ Plugin-based to easily add commands
✓ Access to all robot controller's features with flexible messages

Source : https://github.com/smith-doug/rmi_driver
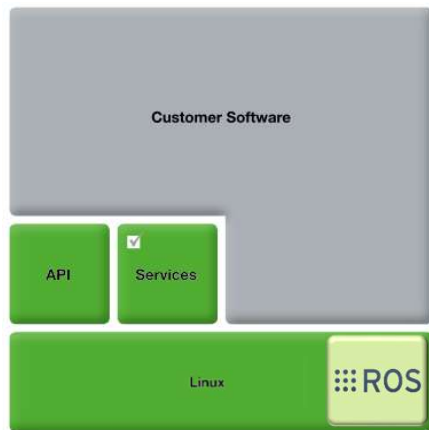
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Additional features

Offer a possibility to upload an application to several units

✓ Develop a plugin for our PLC configuration Suite (KeStudio)
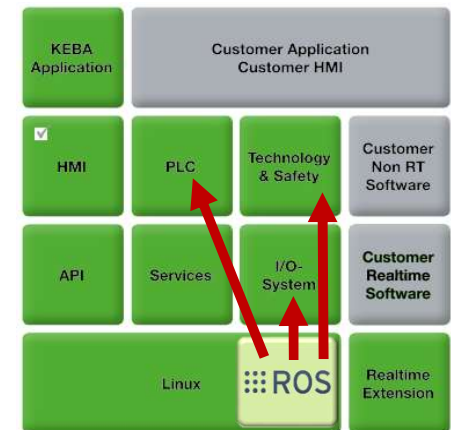
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Integration Levels

- ROS core on IPC
- No interfaces
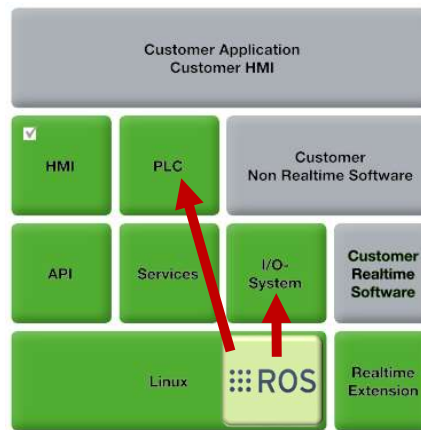
- ROS interface to basic system

- Full integration
- ROS with KeMotion technology features

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KEBA solution
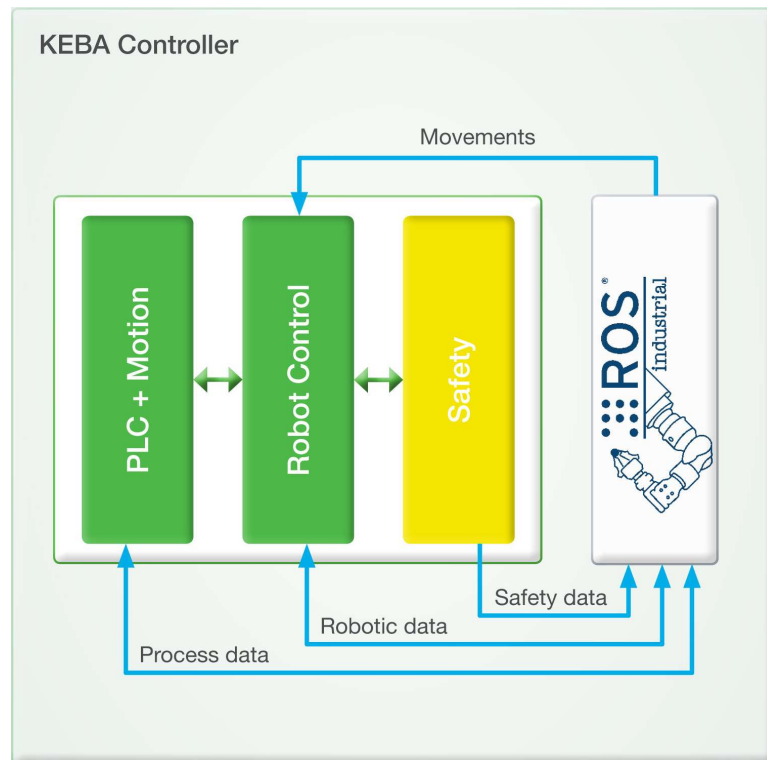
- all in one plattform

- PLC, Robotik, Safety, ROS

- 1 development tool for robotics and ROS

- no additional ROS PC

- full access from ROS to KEBA controller

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Visit us at the Demo

Thank you
for your attention!

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