ROS-I Unique combination
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Agenda

- Short company presentation
- KEBA Robotic solutions
- Unique combination and integration
- Outlook and opportunities
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
Mission

Technologies of KEBA help people to make the world of life and work easier.
50 years experience in electronic and software

- System Consulting
- Software development
- Hardware development

- Field quality
- Own Produktion
- Customer support network
Flexible production
Customers who trust KEBA
KeMotion
The complete solution for the automation of robots and machines
Market leader in TP
Innovative and easy to use
KeMotion – total robotic solution
KeMotion – easy and fast

- Easy robot configuration in dimension, axis and mechanical couplings.
- Easy setting and program generating
- Simulation tool
Precise movement and combination

PLC + Motion
Ready to use Libraries
Codesys + PLC open
Wizards
Dynamic robot model
Online calculation
Consideration of elasticity
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
Open Source is not new to us
KEBA - ROS

ROS industrial
Standard market solution

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

1 Tool + 1 Control unit
Open control architecture

Easy integration of new technologies

- ROS
- HMI
- Control
- Application
- PLC
- Motion
- Robotics
- Safety
- HMI
- Customer Technology
- KEBA Basepackage
- HW, Services, Diagnosis
- I/O System, Communication
- OS Linux Preempt RT

I/O Drive Safety
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
Integration of ROS

**Program interpreter**

**Interpolation**
- Safety checks, path prediction, limiter
- Kinematics transformation
- Dynamic robot model

**Look Ahead Interpolation**

**Axis 1**

**Axis 2**

**Axis n**

KeMotion
Robot Control

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Additional features

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
Additional features

- Offer a possibility to upload an application to several units
  - Develop a plugin for our PLC configuration Suite (KeStudio)
Integration Levels

- ROS core on IPC
- No interfaces

- ROS interface to basic system

- Full integration
- ROS with KeMotion technology features
KEBA solution

- all in one platform
- PLC, Robotik, Safety, ROS
- 1 development tool for robotics and ROS
- no additional ROS PC
- full access from ROS to KEBA controller
Visit us at the Demo
Thank you for your attention!