ROSIN project "BLACKBOX"

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Industrial projects
- Industrial robot systems
- Feasibility studies
- Customized devices / arrangements

Products
- FlexGui
- Industrial robots

Research & Development
- Training
- Consultancy
- Public funded R&D projects
- Academic research and publication
“Cutting edge” industrial robotics using ROS I

- User friendly UI framework
- Factory 4.0 compliance
- Upgrade legacy robots
- Remote assistance
- Rapid project setup
- Alarms, notifications

- Exhibition pieces
- Entertainment
- User interface for controller
- Industry
- Exhibition piece
- Entertainment
- Chess Robot
- Entertainment
- Multipass welding
- Research
- Pick & Place demonstration
- Research
- Graphical palletizing
- Industry
- UI for controlling a mobile robot
- Research
- Monitoring a palletizing application
- Industry
- Graphical palletizing
- Industry
- Process monitoring
- Industry
- Robotic edge applications
- Research

- Custom software
- Drivers
- Consulting

- Project Type
- Technologies
- ROS
Customers located over a considerable geographical area
APPLICATION:
• Monitoring system with trigger based data recording, playback and reporting

BLACKBOX DEVELOPS:
• Innovative ROS based framework for developing, debugging and maintaining ROS based robotics systems
• Intuitive, user-friendly, easily customized GUI

THE FRAMEWORK IS BUILT UPON:
• Components from the project partners' previous R&D
• Existing ROS technology
SOFTWARE AT INDUSTRIAL QUALITY LEVEL:

- BLACKBOX aims to develop a planning, monitoring and control software suite on industrial quality level, for any industrial robot applications
- Components will partly be open-sourced and uploaded to the ROS community to be further applied in R&D and industrial applications
- Documentation and training material will be made available.

INDUSTRIALLY VERIFIED AND DEMONSTRATED:

- Rainpower AS
- Contiga AS
- Nortura AS

REFERENCE PROJECT FOR ROS-INDUSTRIAL:

- International showcase to demonstrate the power of ROS on a best practice example
Components

TRIGGER MONITOR – AUTOMATIC TRIGGER EVENT FOR CUSTOMIZABLE CONDITIONS

CLOUD CONTROL – AUTOMATIC ONLINE STORAGE FOR ROSBAG FILES

NOTIFICATION SYSTEM – AUTOMATIC NOTIFICATION OF THE REMOTE PARTY IN EMAIL

EASY-TO-USE UI – INTUITIVE UI FOR CUSTOMIZATION, CONFIGURATION AND CONTROL

MODULAR – VENDOR INDEPENDENT, EASILY INTERCHANGEABLE SUPERVISED HW COMPONENTS

CONTROL PC AND TABLET
**Used ROS main components:** pyros, rosbag, roslibjs, rosnodes, rosbag, roscpp

What we gained here:
- Data recording and playback
- Communication layer
- High performance bridge basics
Progress

• **Milestone 1 – FINISHED**
  – 2019-04 development started
  – 2019-09 development ready to submit
  – 2019-11 submitted for review
  – 2020-01 planned release of MS1
    • Trigger monitor
    • Cloud uploader
    • Rosbag control
    • FlexGui 4.0 UI

• **Milestone 2 – UNDER DEVELOPMENT**
  – 2019-09 development started
    • High performance bridge
    • Trigger monitor and cloud uploader
  – Planned finish 2020-01

• **Milestone 3**
  – Planned finish 2020-03
  – Complete release of the code, documentation and training material
Demo
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