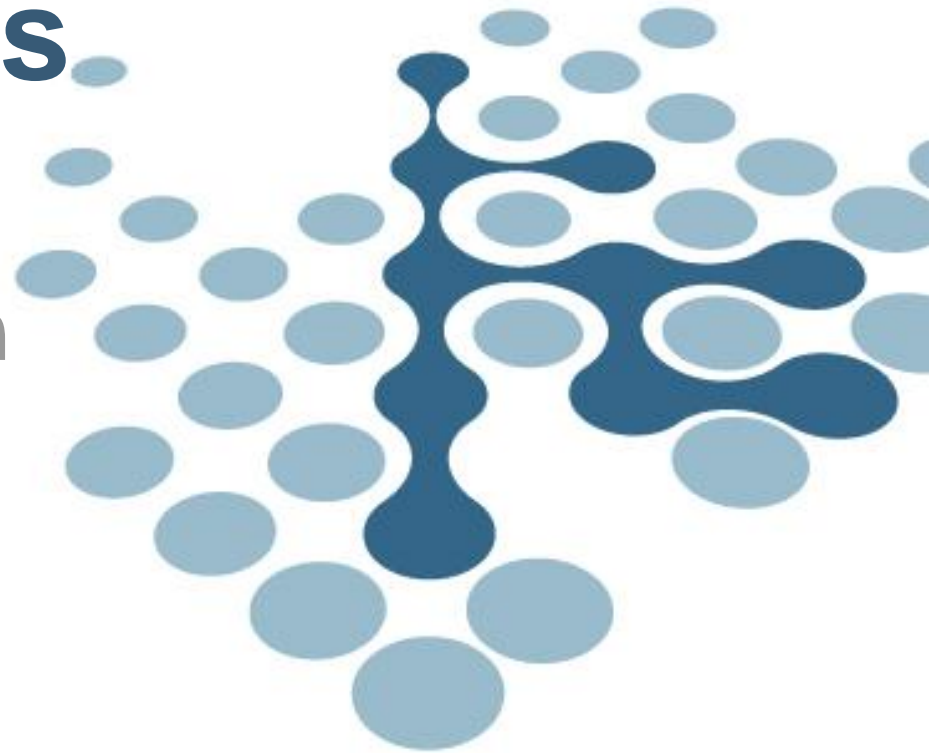


Embedded Artists

FreeMASTER and
i.MX RT1176 presentation



Outline

- Presentation of Demonstrator
- Debugging complex and real-time systems
- FreeMASTER introduction
- Hands-on session 1
- Hands-on session 2
- iMX RT1176 Developer's Kit Hardware
- More information



i.MX RT1170 Family

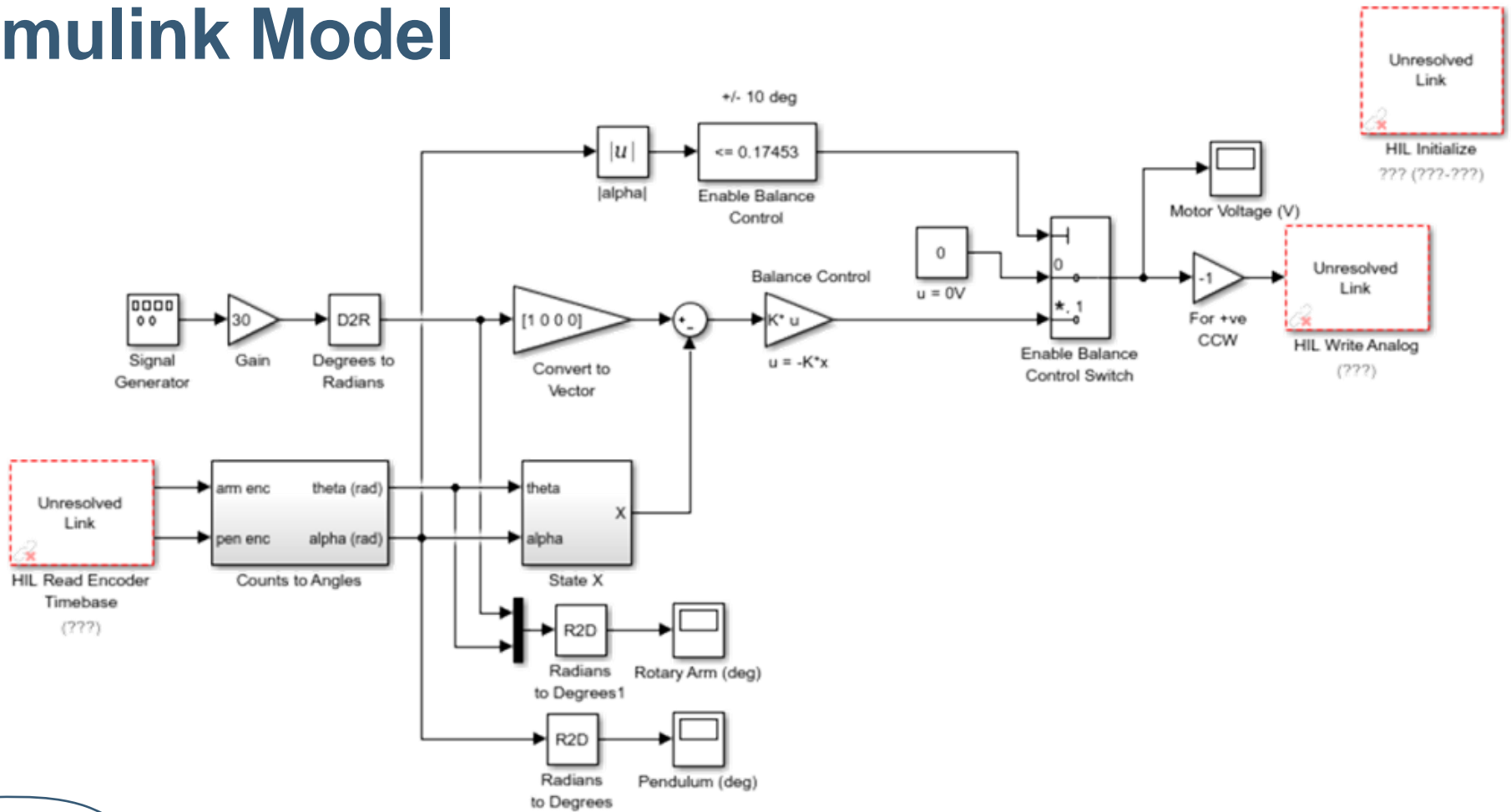
- 1GHz Cortex-M7!
- ...and much, much more



Rotary Inverted Pendulum



Simulink Model



Debugging of complex and real-time systems

- Use MCUXpresso as IDE for the demonstration
 - Project management, file editing and control over the build process and debugging
 - Breakpoint – stops execution!
- Control loops – have hard deadlines
- Complex systems that interact with the surrounding – have more or less hard deadlines
- Solution is non-intrusive debugging
- Watch-points is not the solution
- Complex systems and control loops needs parameter trimming and optimization – run test cases in a test bench setup

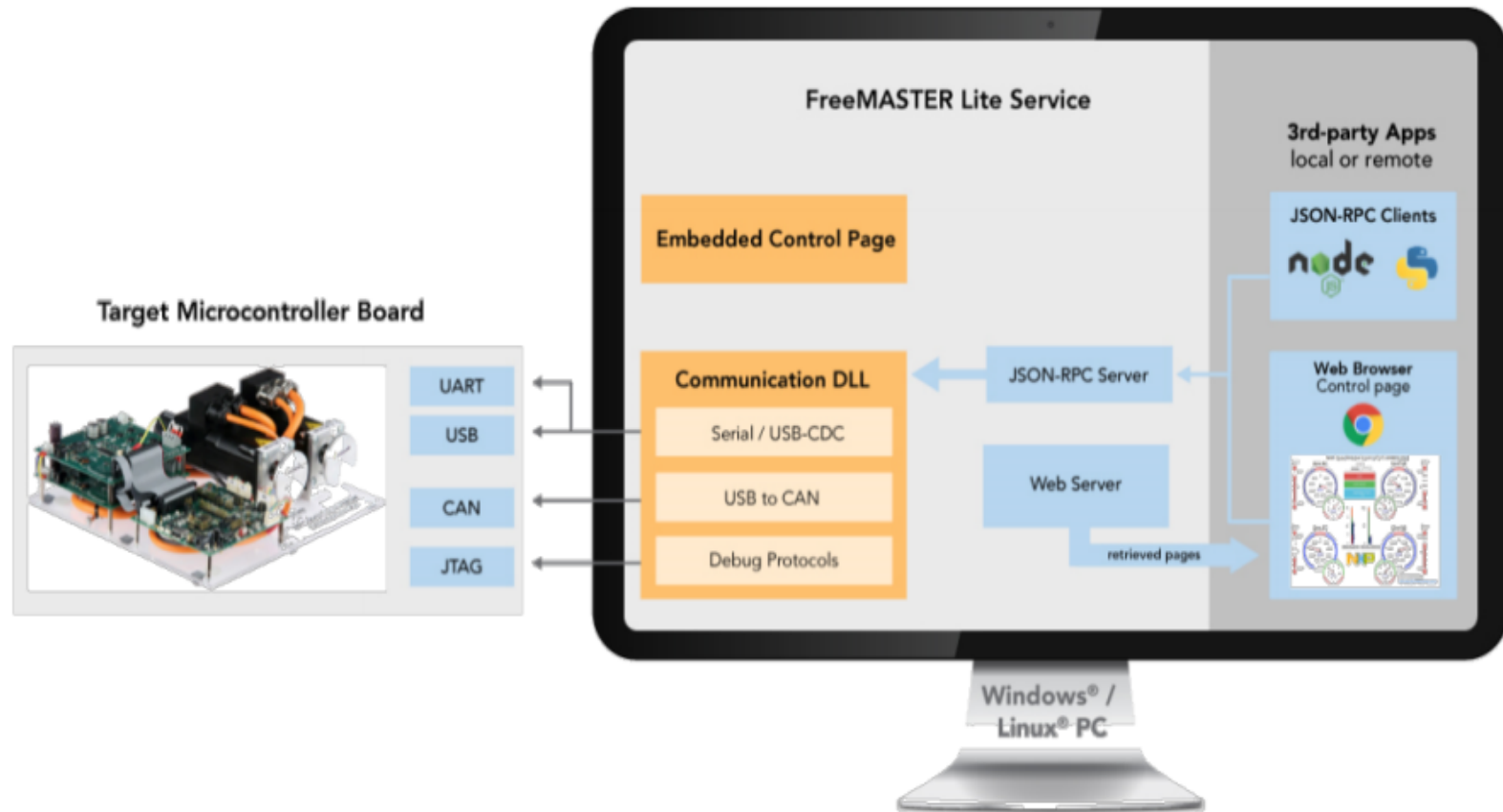
FreeMASTER introduction

- Target
- Communication channel
- PC host application;
Monitor and Control variables
- Share and Export variables



FreeMASTER Lite Service

- Share and Export to other applications



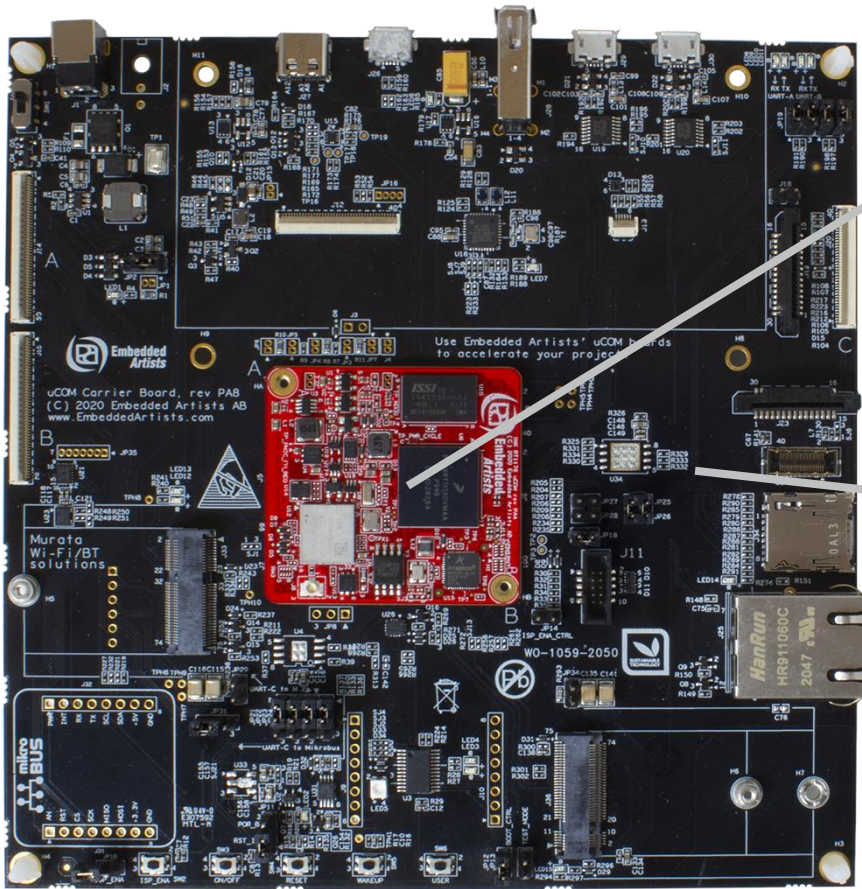
Hands-on #1

- Easiest way to start
- Use JTAG interface as communication channel
- No FreeMASTER code running on target

Hands-on #2

- Use a UART as communication channel
- Application on target runs FreeMASTER driver on target (as a process)
- FreeMASTER loads settings from target
- Defined which variables to expose
- Use HTML and Javascript to create a Graphical User Interface

iMX RT1176 uCOM Developer's Kit



iMX RT1176 uCOM board

- 42 x 45 mm in size
- Proven platform
- Accelerates your development

uCOM Carrier board

- Reference implementation of key interfaces

iMX RT1176 uCOM Developer's Kit:

Price is **199 EUR**

iMX RT1176 uCOM:

Price starts at **35 EUR**

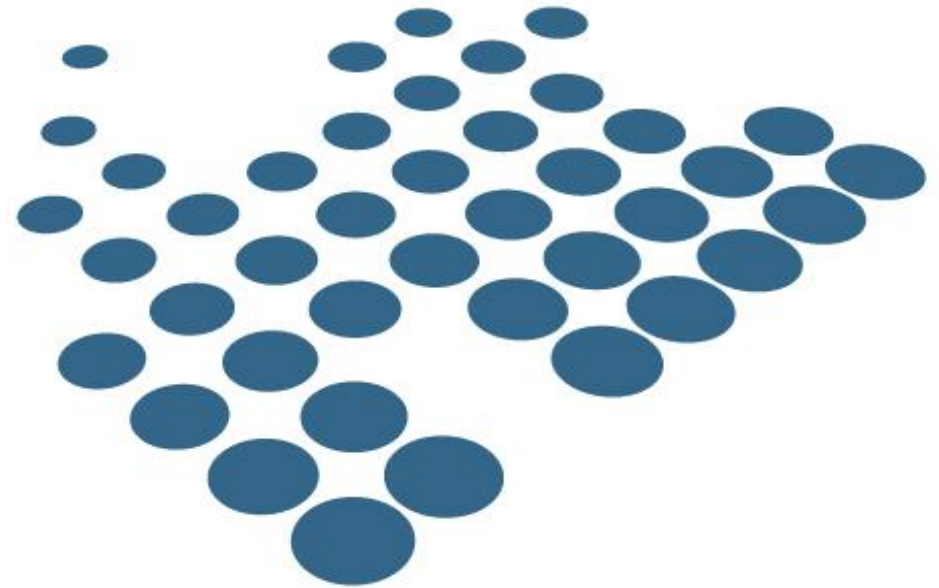
More information

- www.nxp.com/freemaster
- <https://www.embeddedartists.com/products/imx-rt1176-developers-kit/>

...and try FreeMASTER in your next project!

Thank you for watching!

Time for Q&A



www.EmbeddedArtists.com