

# 6. Meeting Modernisation HKR UNILAC - Potiboard-

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13/09/2024

# Project Organisation

- ◆ The 'Potiboard project' is divided into two sub-projects:

- ◆ **Potiboard-Encoder-Device**

The group *Hardware and Electronics (HEL)* from ACO will develop, build and maintain the potiboard encoder devices.

Volker Kleipa is the sub-project lead.

- ◆ **PotiboardApp Application**

The main development of the application is outsourced. This sub-project is under supervision of the group *Applications (APP)* of ACO.

Jutta Fitzek and Christian Hillbricht (both of group *APP*) are the coordinators.

Arthur Halama of the group *Application Support (APS)* of ACC is **Product Owner**.

# Potiboard Project Plan

	Description	Comment	Date
1.	Review	Status and Planning	17th-21th June
2.	Functional and Integration Test	Dry-Run July 2024	15th-19th July
3.	Review	Status and Planning	Begin of Sept.
4.	Review	Status and Planning	Begin of Oct.
5.	Functional and Integration Test for Emergency System	Dry-Run October 2024	22 <sup>nd</sup> - 25 <sup>th</sup> October
6.	Meeting für weiteres Vorgehen Richtung Vollausbau		Nov. 2024
7.	Fertigstellung funktionsfähiges Vollausbau-Potiboard	Zur Strahlzeit	Q2 2026

# Status: Milestone Emergency System (1)

Compulsary lists of requirements (uncomplete):

## ◆ **Potiboard-Encoder-Device:**

- ❖ Two equal devices should be ready for Emergency System
- ❖ Total of 8 rotary encoders should be in one line
- ❖ A light should indicate the connection status (?)
- ❖ A Left and Right Button to change (selected magnets) on beam line
- ❖ Two Buttons to decrease/increase Increment



# Status: Milestone Emergency System (2)



# Milestone Emergency System (3)

Compulsary lists of requirements (uncomplete):

## ◆ **PotiboardApp Application:**

- ❖ Context Selection Widget
- ❖ Pictogram-View (horizontal row) of all magnets in chain (for selection)
- ❖ Filter function
- ❖ Second horizontal row with icon list representing selected magnets
- ❖ A Left and Right Button to change (selected magnets) on beam line
- ❖ Two Buttons to decrease/increase Increment
- ❖ Sleep Button (block all input)
- ❖ Coupling Switch (Master Mode)

# Milestone Emergency System (4)

The screenshot displays the PotiBoard @ PRO software interface. At the top, there is a window title bar and a menu bar with options like 'Show MIDI Devices', 'Drive Result Viewer', 'en', and 'About'. Below this, a dropdown menu shows 'UY7 via SG' and a power button. The main area is divided into two sections: 'Devices' and 'PotiBoard'.

**Devices Section:** A horizontal scrollable list of device cards. The first six cards are red and labeled GUH4QT7, GUH4QT72, GUH4QD81, GUH4QD82, GUH4MS6H, and GUH4MS6V. The last two are grey with question marks and labeled GUS1MS1H and GUS1MS1V. A 'GUS1' label is visible below the grey cards. An 'Add To PotiBoard' button is centered below the list.

**PotiBoard Section:** A 'Large (1)' view of the same device cards. The red cards display numerical values: GUH4QT7 (-3.857 T), GUH4QT72 (1.877 T), GUH4QD81 (-1.002 T), GUH4QD82 (0.644 T), GUH4MS6H (10.72 mrad), and GUH4MS6V (-9.814 mrad). The grey cards display 0.001 mrad and 0.085 mrad. A 'Coupling Mode' toggle is present, and a green 'Connected' status indicator is on the right. A status bar at the bottom left shows '11:09:55 - Devices loaded successfully.'

# Test during Dry-Run October 2024

## ◆ Functional Test

- ❖ Bug Resolution: The correct rotary encoder signals should be transmitted. Sometimes signals drop out or are with opposite signs.
- ❖ Bug Resolution: Buttons still tend to bounce and pass their signal more than once.

## ◆ Integration Test

- ❖ Set Unilac magnets of different types (MU, MS, QT, QQ) from the *Potiboard-Encoder-Device* via the *PotiboardApp Application*.
- ❖ Check how well humans adapt setting the magnets via the LSA parameters forseen for the potiboard operation (focal strength and angle).

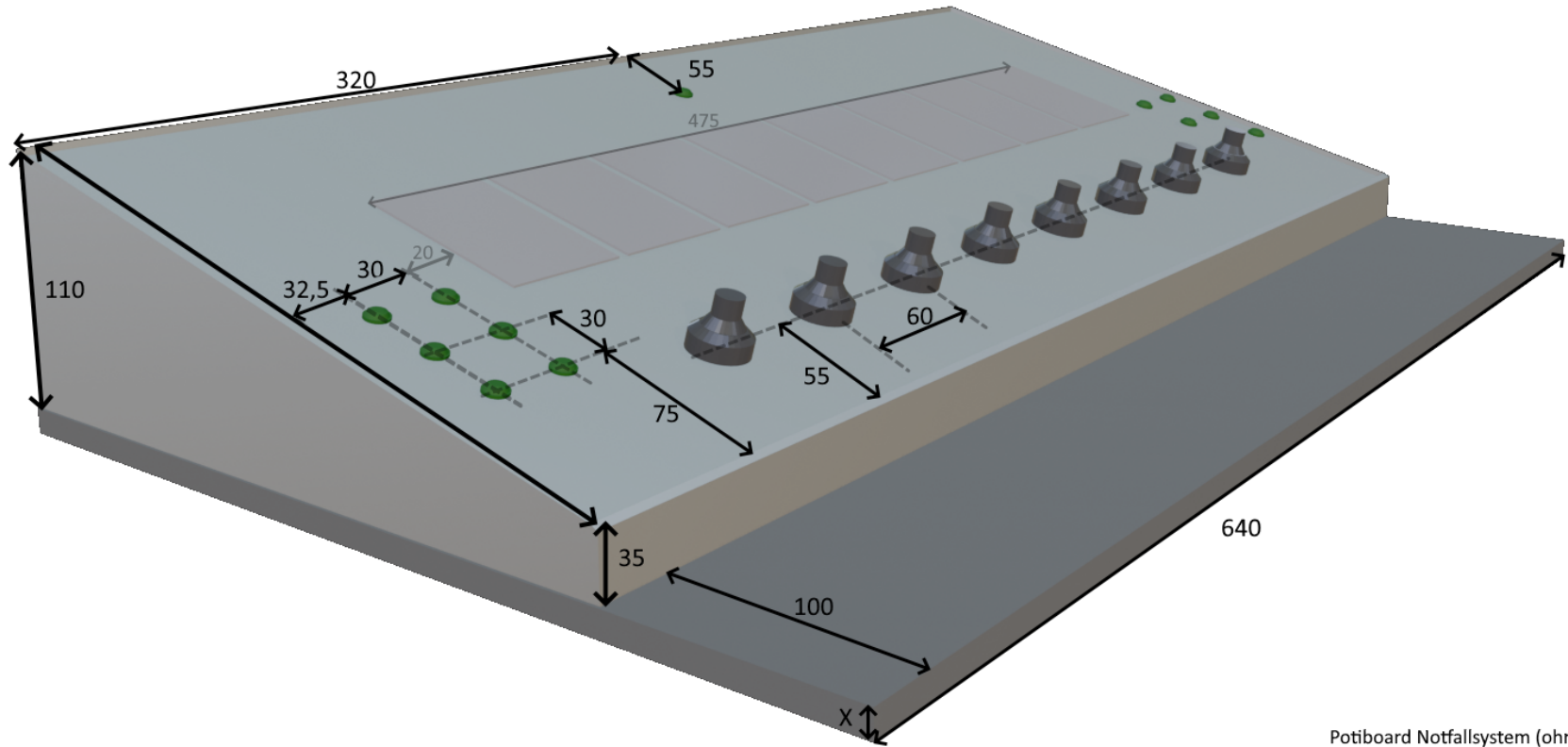




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# Perspective Emergency System



12.09:2024  
Potiboard Notfallsystem (ohne Displays)