

# Projekt Hy2Rail

## Cleaning up Shunting Operations

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m.ZERO OG

**Ich tu's Energy Lunch #51: Wasserstoff – Baustein im Energiesystem der Zukunft**  
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- Engineering Consultancy founded in Graz in 2018
  - Service Spectrum: From feasibility studies to design&developments services to turn key projects based on smart, client centered value chain design
- Founders:
  - Alexander Schimanofsky
  - Herbert Wancura
- Mission & Purpose
  - **Enable the transfer to ZERO Emission Powertrains in the Off-Highway Mobility Sector**
- Markets
  - Rail (Focus: Cargo and Infrastructure Development & Maintenance)
  - Expansion planned towards Container Terminals, Airport Ground Services



- Hy2Rail Project is part of the „Mobility of the Future“ Projects of FFG
- Partners:
  - RCC GmbH
  - ÖBB Group
  - Stako (Worthington)
  - PJM
  - TEMO GmbH
  - Montanuniversity Leoben (E-Technology)
  - TB Wiener
  - University of Rome „Tor Vergata“ (Industrial Engineering)
  - m.ZERO OG
- Main Deliverables
  - Hybrid Generator Unit – Mobile ⇒ ZE-Container for Rail Maintenance Unit X534
  - Hybrid Generator Unit – Integral ⇒ Conversion of Diesel Shunter Type 2068

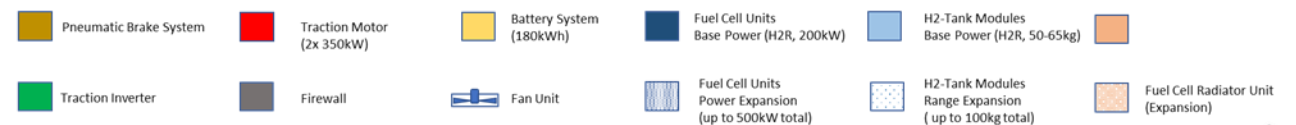
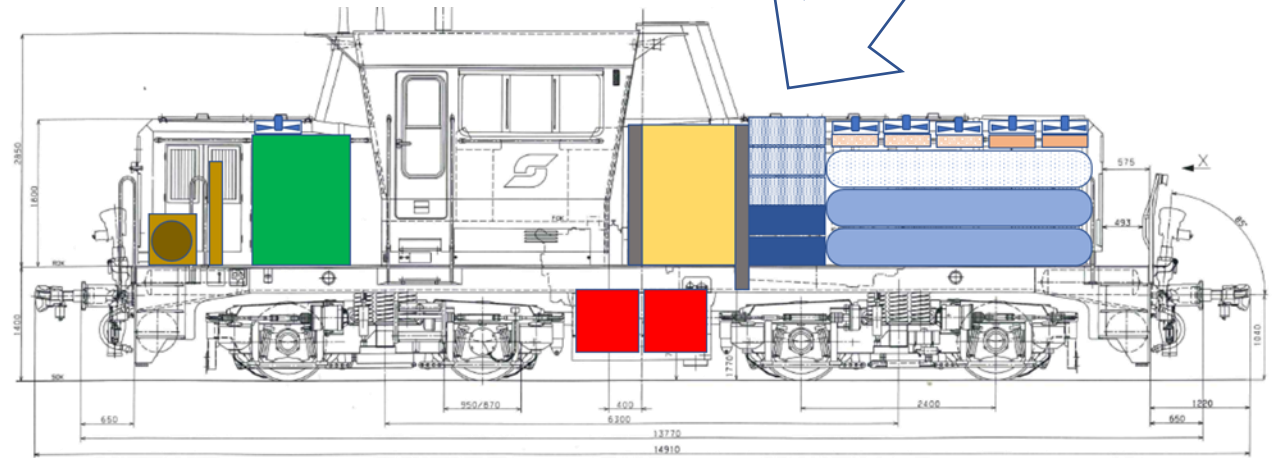
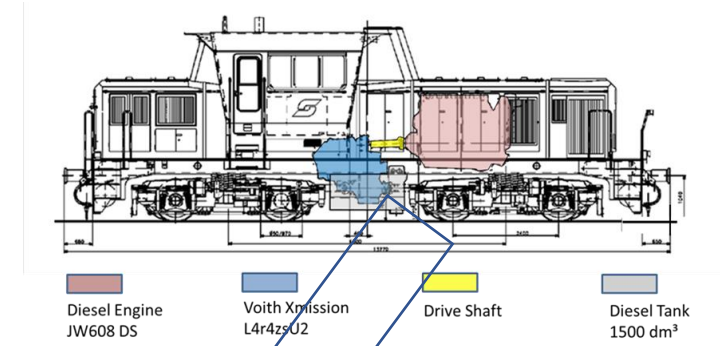


## ■ Diesel (Base Unit)

- Total weight : 72t
- Diesel Engine: 810kW
- Tractive Force: 176kN
- Max Speed: 50/100kmh<sup>-1</sup>

## ■ Hy2Rail Deliverable

- Fuel Cell System (200kW, upgradable to 400 -500kW)
- H<sub>2</sub>-Storage up to ≈ 100kg H<sub>2</sub> @35MPa
- Battery ≈180kWh
- 2 AC Traction Motors @350kW
- Tractive Force 160kN
- Max Speed 100kmh<sup>-1</sup>





# Thank You!

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