



FIT-4-NMP

Strategic and targeted support
to incentivise talented newcomers
to NMP projects under Horizon Europe

HIGH-PERFORMANCE and SUSTAINABLE COMPOSITES INNOVATION WORKSHOP TU DRESDEN 13-14.10.2022

PESA Bydgoszcz SA
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Poland



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 958255



▶▶▶▶ PESA Today



PESA

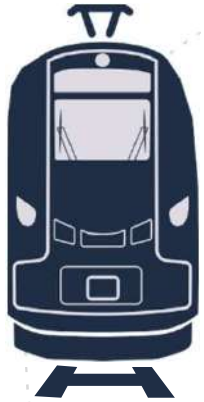
PESA is Poland's largest rolling stock manufacturer. It employs nearly 4,000 people at its plants in Bydgoszcz and Minsk Mazowiecki, and more than 1,500 companies co-operating with it employ tens of thousands of people in total.

PESA trains and trams run in all Polish regions and most large cities as well as over a dozen European countries. PESA trams are used by the inhabitants of Warsaw, Moscow, Kiev or Sofia. Our vehicles transport passengers of e.g. the German DB railway, Italian Trenitalia, Ceske Drahy or Belarusian Railways. Up to now,, the company has already obtained 23 foreign approvals.



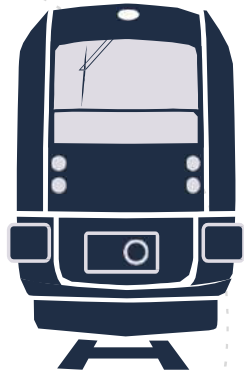


▶▶▶▶ PESA in figures



202

EMU



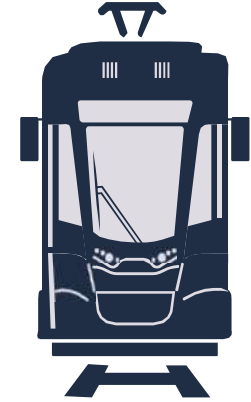
448

DMU



45

LOCO



804

TRAM

more than 30 active CLIENTS
more than 15 contracts in ongoing production
nearly 1500 vehicles sold





PESA 2026+

new strategy, new products

20

IT

BUSINESS MODEL

restructuring of the business and organizational model
Group, consolidation of support functions

MARKET DEVELOPMENT

development in new foreign markets
(growth in scale)

EFFICIENCY

cost optimization of current products

cost optimization of current products

26+

INTEGRATION

PLATFORM

development of the Regio160 platform

≥ 200 KM/H

obtaining of competences for the production of rolling stock
≥200km/h

SERVICE AND MAINTENANCE

building a profitable segment (increase in scale)

integration of selected industry players on the Polish market (scale development)

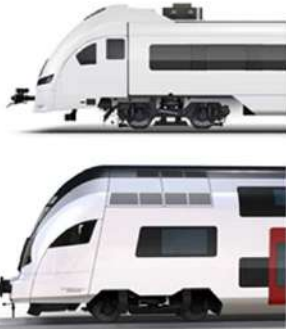


▶▶▶▶ PESA innovation pillars - product development

New PESA product portfolio

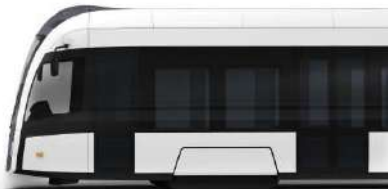
REGIO vehicle platform

REGIO¹⁶⁰



new trams of EU standard

TRAM^{EU}



INTER-REGIO vehicle platform

INTER **REGIO**²⁰⁰



GAMA locomotive platform

GAMA



HIGH SPEED RAIL

HS **PREMIUM**²⁵⁰



Hydrogen locomotive SM42-6Dn

H₂
hydrogen



▶▶▶▶ The challenges of the Green Deal

Green PESA 2030+ - the company is working on a long-term strategy to minimise its carbon footprint in all areas of the organization.

Actions already taken:

- All new investments in production and office facilities take into account 'green order' principles
- The design of the new vehicles is based on 'green deal' principles - the vehicles will be low-emission, manufactured from biodegradable and recyclable materials and components, and produced with the lowest possible carbon footprint
- Already now, when building new vehicles/ex. hydrogen locomotive/ we ask suppliers of components and subassemblies for 'green production' certificates



▶▶▶▶ Green PESA 2026+

eco **REGIO**¹⁶⁰

Eco drives

battery systems, hydrogen cells, DMU EURO stage V emission, HVO

10% lower weight of main systems

shell and alu. car body construction, bogies, assembly

90% recyclable components

brake energy recuperation

in battery and hybrid systems

8% less energy thanks to PESA eco drive

PESA IT applications

ecology on many levels

REGIO¹⁶⁰ New PESA product platform

pesa



HORIZON-CL4-2023-TWIN-TRANSITION-01-31:

Energy efficiency breakthroughs in the process industries (Processes4Planet partnership) (RIA)

1. My key idea for contribution to a project under this topic

Pesa, as a company with a green strategy 2030+, may specify expectations and parameters of materials and components used to production of our rail vehicles and trams. We may also test them within the production end exploitation processes

2. Competences relevant to the topic and motivation to apply

End User, producer of trains and trams, with a long-term strategy to minimise its carbon footprint in all areas of the organization activities, our products - vehicles will be low-emission, manufactured from biodegradable and recyclable materials and components, and produced with the lowest possible carbon footprint // All our supplier will be aksed to deliver components and subassemblies with a green production certificates



HORIZON-CL4-2024-RESILIENCE-01-24:

Development of safe and sustainable by design alternatives (IA)

1. My key idea for contribution to a project under this topic

Pesa, as a company with a green strategy 2030+, may specify expectations and parameters of materials and components used to production of our rail vehicles and trams. We may also test them within the production end exploitation processes

2. Competences relevant to the topic and motivation to apply

End User, producer of trains and trams, with a long-term strategy to minimise its carbon footprint in all areas of the organization activities, our products - vehicles will be low-emission, manufactured from biodegradable and recyclable materials and components, and produced with the lowest possible carbon footprint // All our supplier will be aksed to deliver components and subassemblies with a green production certificates

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