

TAKING
COOPERATION
FORWARD



YOUMOBIL Online course
Online (Žilina) 27th April 2021



Revitalization site in Croatia – EMV 6111



Zrinka Marchioli, HŽ Passenger Transport Ltd, Croatia

EMU 6111



COOPERATION



RESULT



ABOUT US



PLANS

ABOUT US



HŽ Passenger Transport

Railway operator

State owned, PSC

Entire CRO territory

EMU 6111



Old EMU interior

Old EMU exterior

Renovated EMU

Ground plan



EMU OLD INTERIOR

Owner: HŽPP

Ganz Mávag

Nickname: the Hungarian

Age: >40 years

No of modules: 3

Old metal?



EMU OLD EXTERIOR

Operating: Wider ZG area

Engines: 2

Seat number: 136/236

Length: 72,4 m

Height: 2,2 m

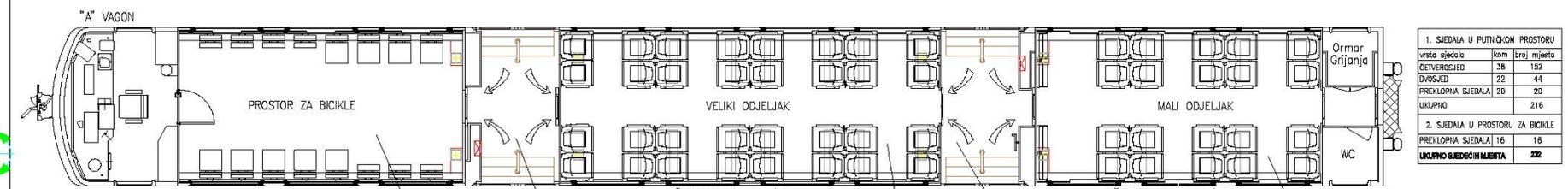
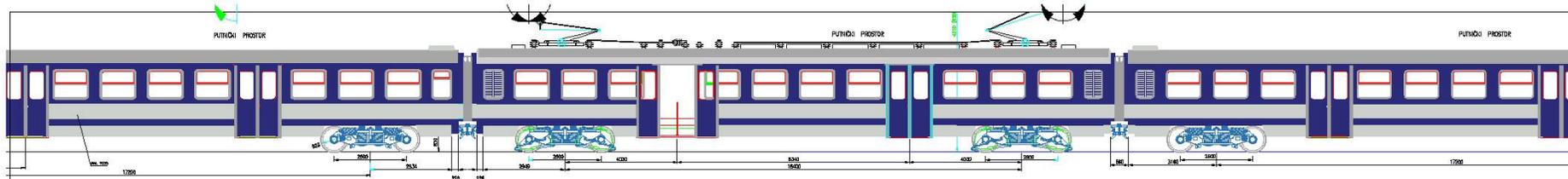
Width: 2,7 m

145 t



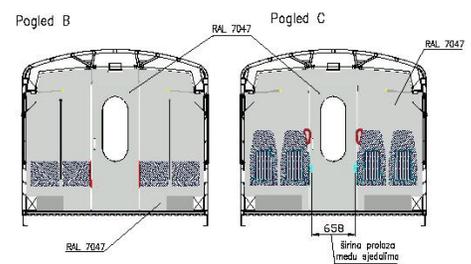
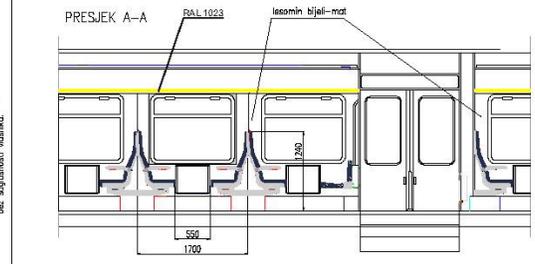
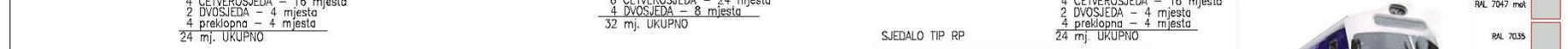
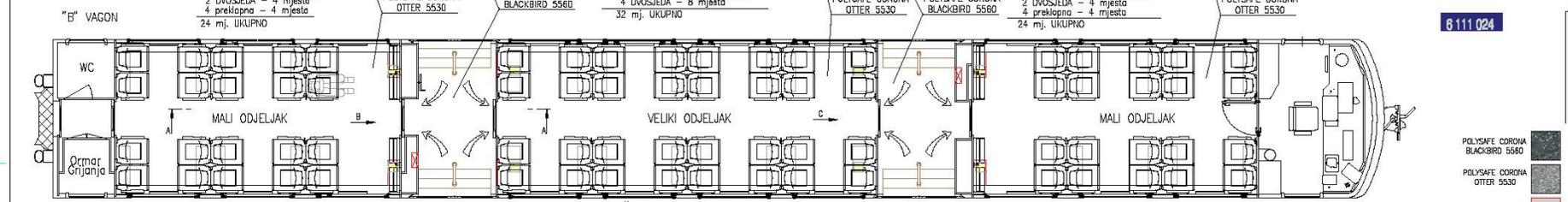
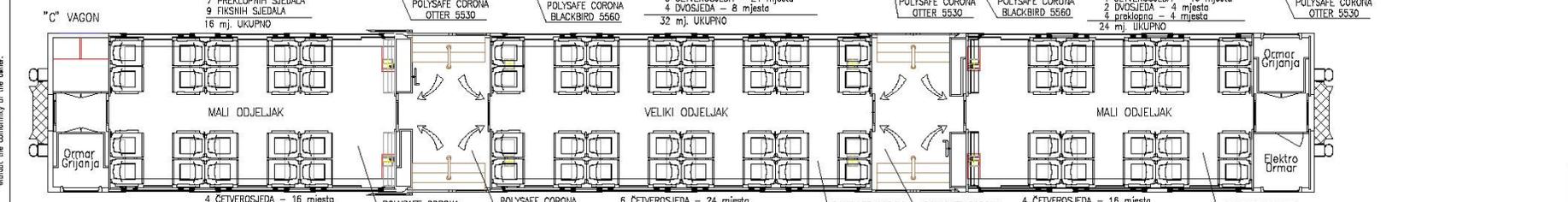
EMU RENOVATED

Modernization process
KONČAR motors
Seat number: 136/236
Speed 120 km/h
Improved interior
New visual identity



1. SJEDALA U PUTNIČKOM PROSTORU		
vrsta sjedala	kom	broj mjesta
ČETVEROSJED	36	152
DVOSJED	22	44
PREKLAPNA SJEDALA	20	20
UKUPNO		216

2. SJEDALA U PROSTORU ZA BIKIKLE	
PREKLAPNA SJEDALA	
16	16
UKUPNO SJEDEĆIH MJESTA	232



- POLYSAFE CORONA BLACKBIRD 5560
- POLYSAFE CORONA GITTER 5530
- RAL 7047 met
- RAL 7035
- RAL 5002
- RAL 9006
- RAL 3001

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Poz.	Naziv	Kom.	Broj crteža (Norma)	Material	Masa	osnovne dimenzije, naputak
5	Preklapna	20.08.2015.	Pređina	Pređina		Tehnički odobrenje rijeke RD 2768-1 Izdavanje: 01.11.2015. 1. izdanje ISO 2768-2 K 1:50
4	Praktično					
3	Konstrukcija	M. Pavličić, ing.				
2	Projezina	Z. Čuček, inž. dipl. inženjer				
1	Obzira	B. Đurić, inž. dipl. inženjer				
Projekt: 6 111 024 EMV GANZ Izvođač: HŽ Putnički prijevoz Broj crteža: 411-11-55-00-00-00 Izdavač: 1 Verzija: 1 Format: A2						

PLANS



Feasibility study

Investment plan



FEASIBILITY STUDY

WHEN? January 2021

WHO? HŽPP experts

INPUTS

Ideas from all around

Maintenance

Security

Advertising experience

SCENARIOS

Master art replica in frames

Graffiti

Student art!!!



Originality

**Simplicity of
production**

Low price

**Intellectual
property rights**

**Cooperation
with minors**

GDPR

No.	Material / activities	Height	Width	Area (m2)	Quantity	Total area (m2)	Cost / m2	Total cost	Total revenue	Rate
Investment								HRK 38,690.32		
1	Classic self-adhesive foil (ceiling - large)	6.80	3.00	20.40	3	61.2	HRK 98.50	HRK 6,028.20		
	Material, print, laminate coating						HRK 51.83			
	Foil set-up						HRK 26.67			
	Foil removal						HRK 20.00			
2	Classic self-adhesive foil (ceiling - small)	5.20	3.00	15.60	6	93.6	HRK 98.50	HRK 9,219.60		
	Material, print, laminate coating						HRK 51.83			
	Foil set-up						HRK 26.67			
	Foil removal						HRK 20.00			
3	Classic self-adhesive foil (entrance - side plating)	2.80	3.00	8.40	18	151.2	HRK 95.50	HRK 14,439.60		
	Material, print, laminate coating						HRK 48.83			
	Foil set-up						HRK 26.67			
	Foil removal						HRK 20.00			
4	Classic self-adhesive foil (entrance - glass)	1.10	0.50	0.55	18	9.9	HRK 90.84	HRK 899.32		
	Material, print						HRK 44.17			
	Foil set-up						HRK 26.67			
	Foil removal						HRK 20.00			
5	Classic self-adhesive foil (entrance - floor)	1.50	1.50	2.25	15	33.75	HRK 95.50	HRK 3,223.13		
	Material, print, laminate coating						HRK 48.83			
	Foil set-up						HRK 26.67			
	Foil removal						HRK 20.00			
6	Classic self-adhesive foil (entrance - ceiling)	2.50	3.00	7.50	6	45	HRK 98.50	HRK 4,432.50		
	Material, print, laminate coating						HRK 51.83			
	Foil set-up						HRK 26.67			
	Foil removal						HRK 20.00			
7	Stickers	0.15	0.15	0.02	200	4.5	HRK 99.55	HRK 447.98		
	Material, print, laminate coating						HRK 52.88			
	Foil set-up						HRK 26.67			
	Foil removal						HRK 20.00			
Revenue										
8	Incremental Revenue								HRK 52,182.76	
Return on investment										
9	ROI									34.87

INVESTMENT PLAN

WHEN? March 2021

WHO? HŽPP experts

INPUTS

Material print: self-adhesive foils for different surfaces (window, granulated, smooth)

Production set-up

Production removal

Contingency

TOTAL? Around EUR 5.150

COOPERATION



Hight school

External expert

EXTERNAL EXPERTS

WHEN? Tender in Apr 2021, contract in Jul 2021

WORK

Printing self-adhesive foils (visuals prepared by students)

Setting-up production

Removing production

Fixing production

DURATION? Min. 1 year

Youth workshops

10/2019 – 3/2020

**Feasibility study
& Investment plan**

9/2020 – 3/2021

**Cooperation with
high school**

4/2021 – 5/2021

Visuals

6/2021 – 7/2021

Production

9/2021



WHAT



COULD



BE!



Thank you for your attention!



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