



PROJECT PRESENTATION

DEPLOYMENT OF THE FIRST CNG STATION NETWORK

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OVERVIEW:

- I. INTRODUCTION
- II. PROJECT DETAILS
- III. DEPLOYMENT OF CNG STATION NETWORK
- IV. PRESENTATION OF THE CNG STATIONS
- V. DISSEMINATION & SUPPORT ACTIVITIES



OVERVIEW:

I. INTRODUCTION

- Transport Emissions & Dependency on Oil
- EU Strategy for Alternative Fuels

II. PROJECT DETAILS

III. DEPLOYMENT OF CNG STATION NETWORK

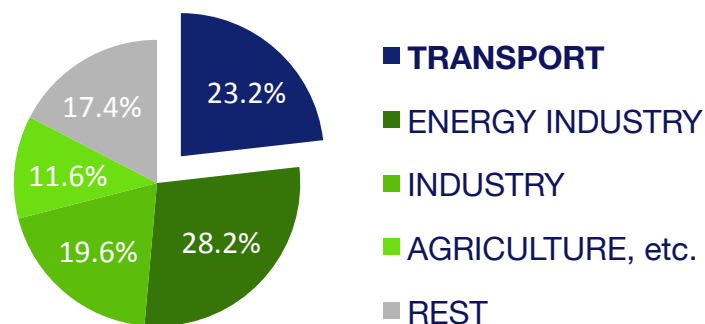
IV. PRESENTATION OF THE CNG STATIONS

V. DISSEMINATION & SUPPORT ACTIVITIES



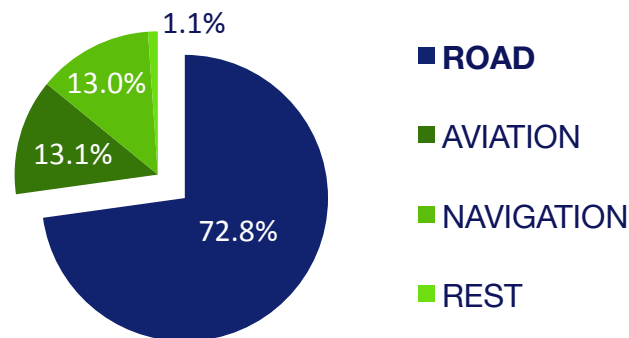
PROBLEM: EMISSIONS FROM TRANSPORT

- 23% of EU GHG emissions from transport



(Source: EEA - European Environmental Agency)

- 73% of transport GHG emissions from road



(Source: EEA - European Environmental Agency)

PROBLEM: DEPENDENCY ON OIL-BASED FUELS

- **94%** of European transport is **depending on oil**

- **84%** is being **imported** -> ca. 1 billion € / day

(Source :DG MOVE - European Commission)

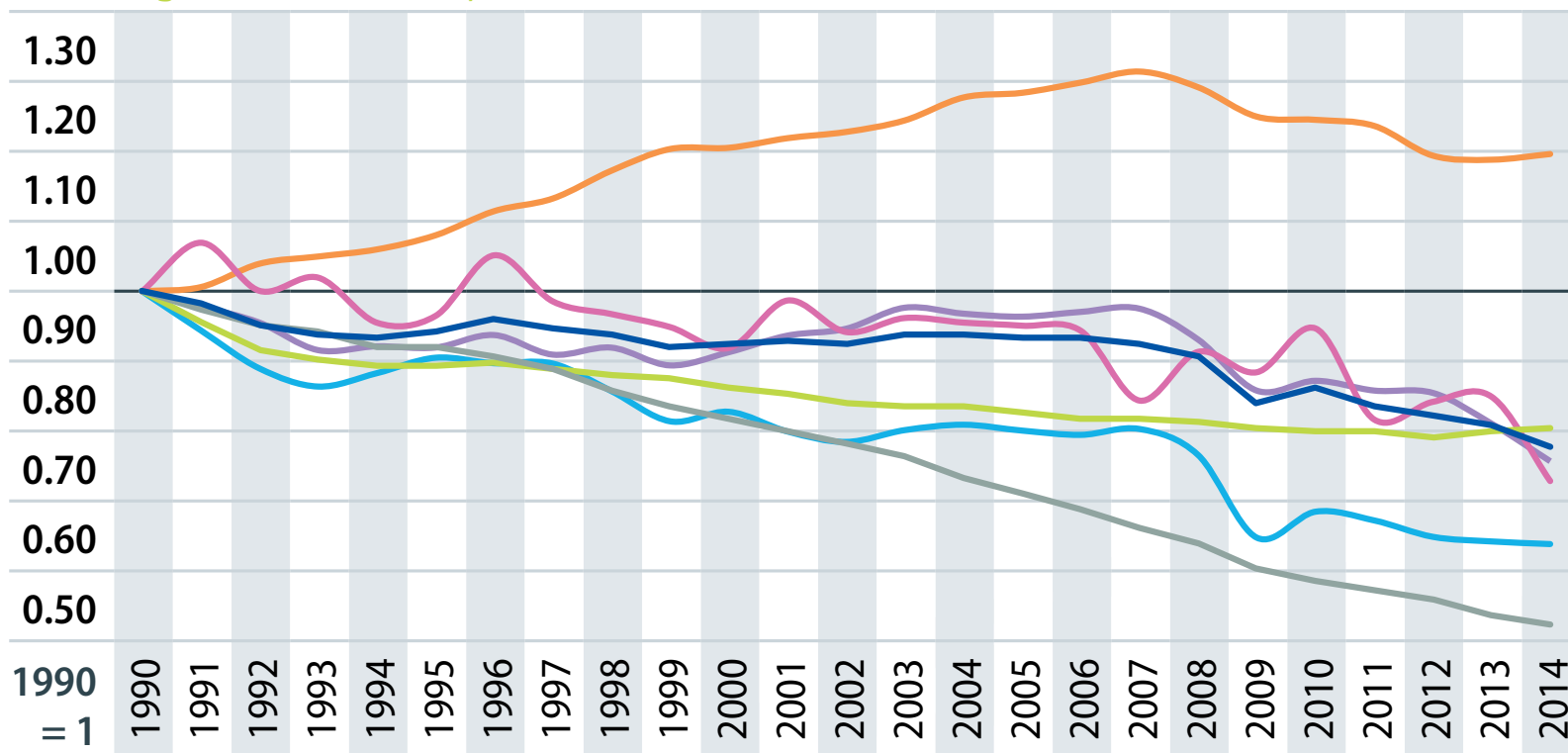


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PROBLEM:

EMISSIONS FROM TRANSPORT

Energy Industries • Industry (***) • Transport (**) • Residential & Commercial • Agriculture, Forestry, Fisheries (****) • Other (*****) • Total



(Source: EEA - European Environmental Agency / Eurostat)



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SOLUTION: ALTERNATIVE FUELS FOR SUSTAINABLE MOBILITY



ALTERNATIVE FUELS:

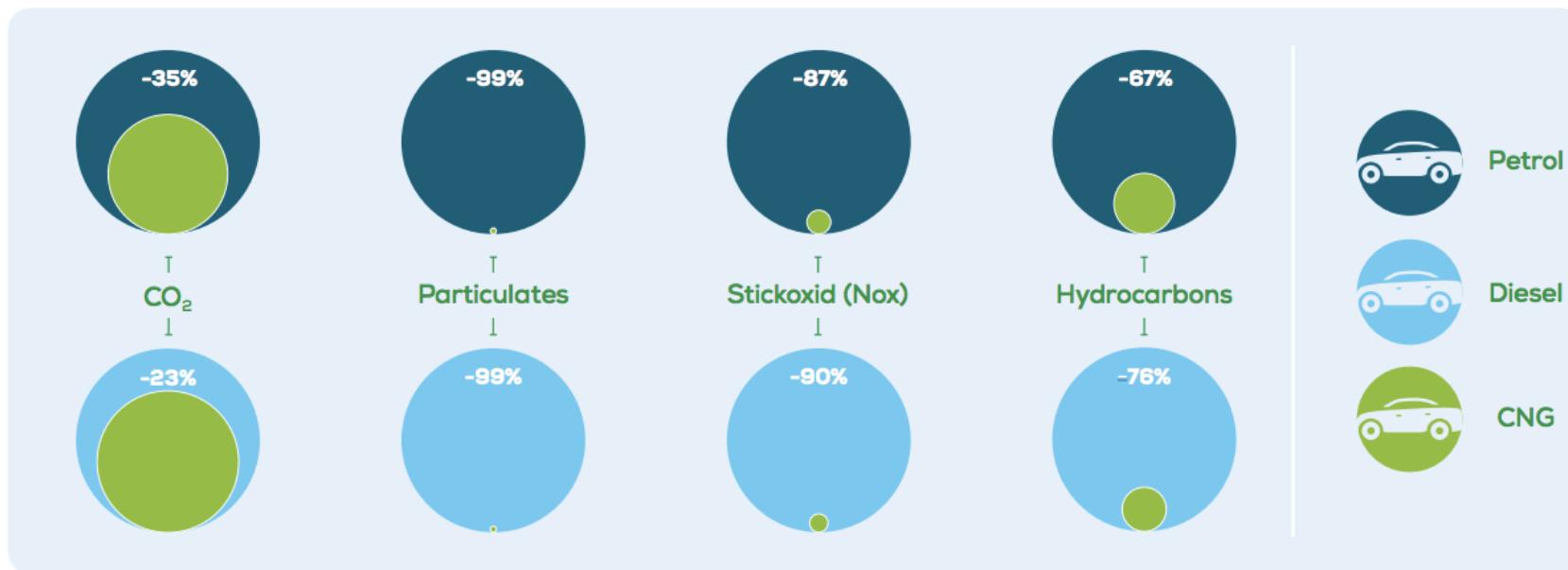
- Electricity
- Natural Gas (CNG, LNG)
- Hydrogen
- Bio Fuels
- [Liquefied Petroleum Gas (LPG)]

- > Reduce transport emissions**
- > Break the dependence on oil
 - > Improve the energy supply security
 - > Support economic growth
 - > Strengthen the competitiveness



SOLUTION: ALTERNATIVE FUELS FOR SUSTAINABLE MOBILITY

NGV EMISSIONS COMPARED TO PETROL AND DIESEL (EURO 6) LIMITS



Comparison Euro 6 VW T5 CNG 2.0l
Source: IAV Germany fuel mix



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SOLUTION:

CLEAN POWER FOR TRANSPORT STRATEGY

OBJECTIVE : Establish a long-term policy framework to:

- > coordinate **technological development & investments** in the different Member States
- > generate security for **public & private investment** in vehicles, technologies & infrastructure
- > develop **consumer confidence** for alternative fuels
 - => internal market development towards **Union-wide mobility using alternative fuels**

D A F I [2014/94/EU] :

DIRECTIVE ON ALTERNATIVE FUELS INFRASTRUCTURE

- > Member States should develop national policy frameworks for alternative fuels
- > common technical specifications for recharging & refuelling stations
- > consumer information incl. price comparison methodology
- > **targets for minimum coverage & timing** for refuelling/-charging infrastructure:

FUEL	TIMING	TARGET	WHERE
CNG	2020	Appropriate nr. of public refuelling points	Urban, suburban & densely populated areas
CNG	2025	Appropriate nr. of public refuelling points	TEN-T core network (ca. every 150 km)



OVERVIEW:

I. INTRODUCTION

II. PROJECT DETAILS

- Funding Programme, Call & Funding Objective
- Project Details & Objectives

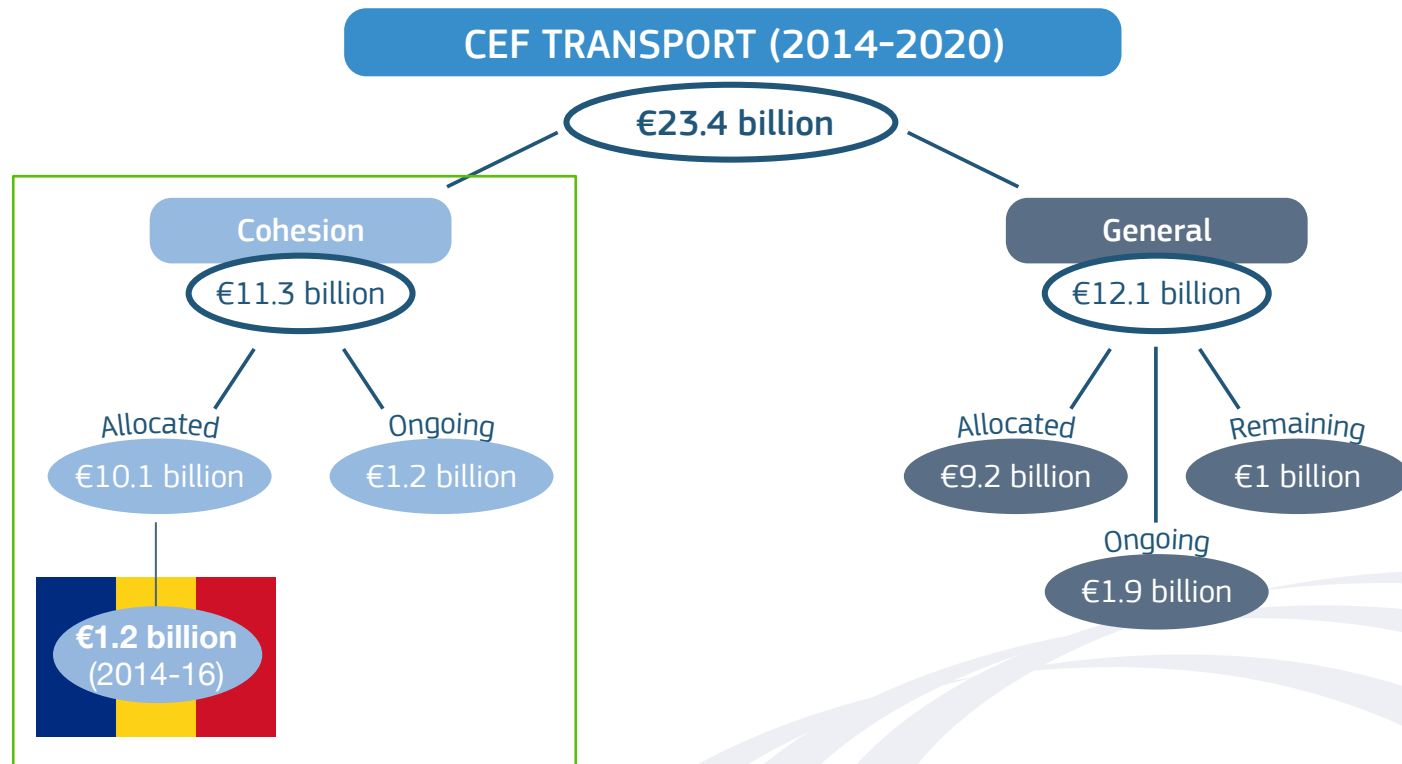
III. DEPLOYMENT OF CNG STATION NETWORK

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FUNDING: CONNECTING EUROPE FACILITY PROGRAMME



FUNDING: 2015 CEF TRANSPORT CALL

2015 Call for Proposals :

- Total Budget : € 7.6 bn -> **€ 6.5 bn** under the Cohesion Envelope
- Application phase: Nov. **2015** – Feb. **2016**

CEF Funding Objectives:

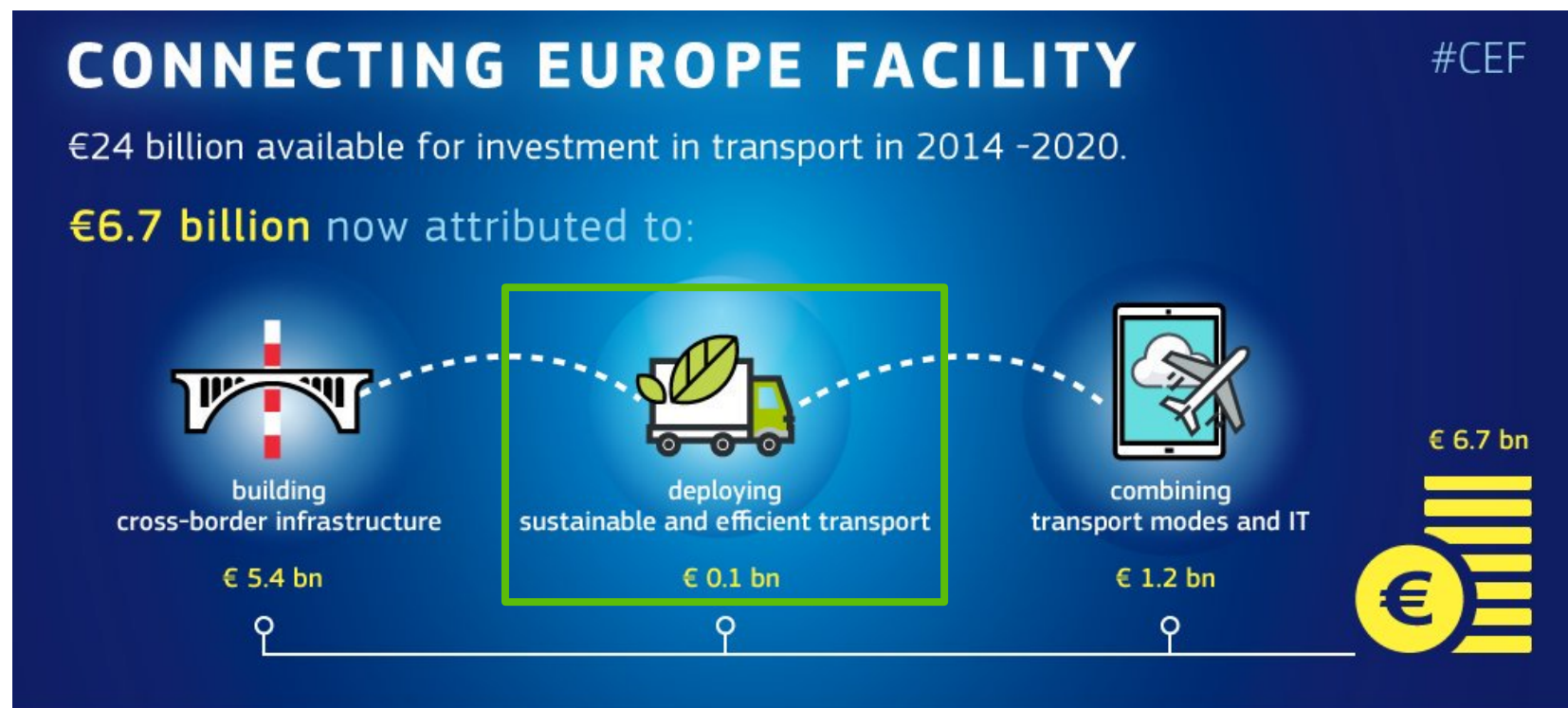
- FO1: Removing bottlenecks & bridging missing links
- FO2: Ensuring **sustainable & efficient transport** in the long-run
- FO3: Optimising the integration & interconnection of transport modes and enhancing interoperability, safety and security of transport

CEF Funding Priority under FO2:

- **Deployment of innovation & new technology actions in all transport modes**
 - > **decarbonisation** by introducing alternative propulsion incl. refuelling infrastructure
 - > Budget: **€ 180 m** (cohesion envelope)

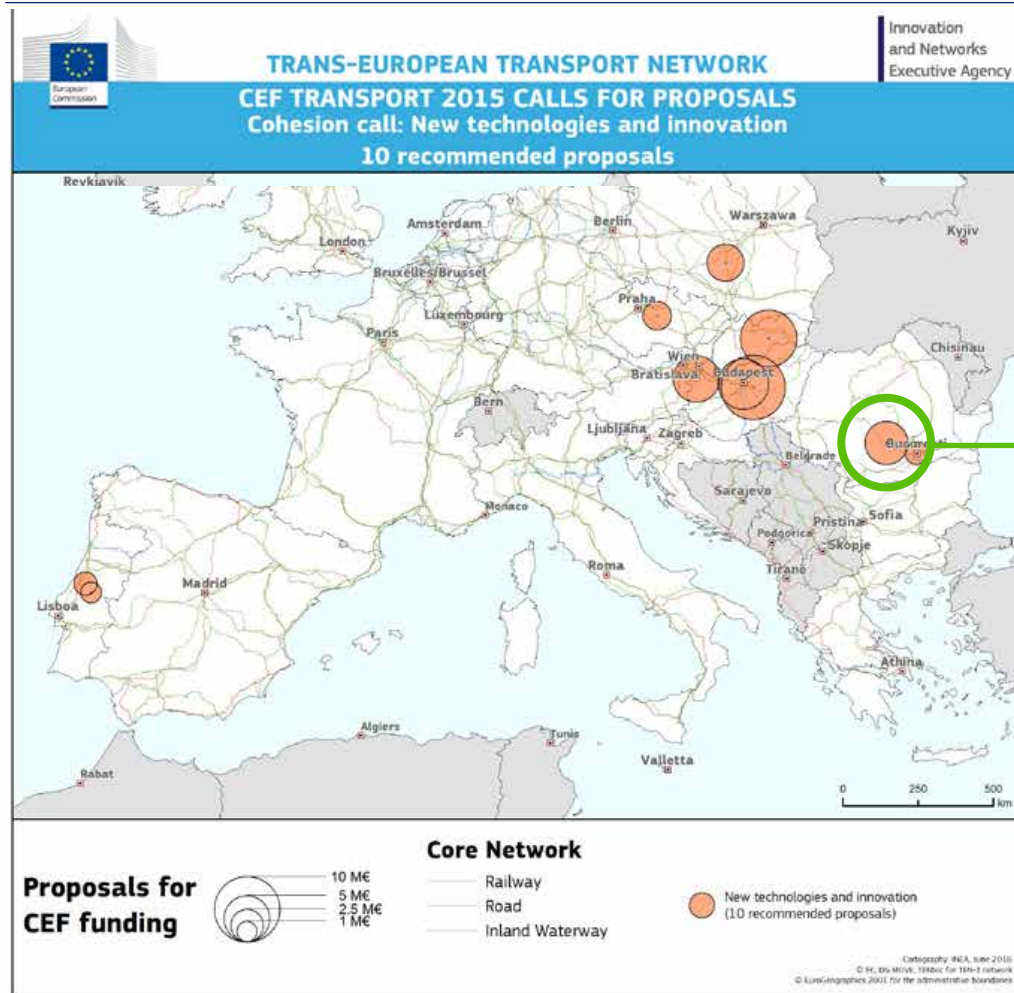


RESULTS: 2015 CEF TRANSPORT CALL



RESULTS:

2015 CEF TRANSPORT CALL



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CNG ROMANIA: **PROJECT DETAILS**

- **CNG ROMANIA** - Initial Market Deployment of a Refuelling Station Network along the Core Network Corridors
- Action Nr : **2015-RO-TM-0373-M**
- Coordinator: **Denisson Energy SRL** (Antares Group)
- Project partner: **Romanian CNG Association** (APUGNC)
- Costs: **€ 5.2 m** -> 85% co-financing: **€ 4.4 m**
- Duration: March **2016** -> December **2019**
- Location: **TEN-T Core Network** -> **Orient East Med & Rhine-Danube Corridors** (RO sections)
- Supervised by:
 - **INEA – Innovation & Networks Executive Agency** (European Commission)
 - **Romanian Ministry of Transport**

SPECIFIC OBJECTIVES:

1. **Deployment of 9 CNG refuelling points** along the Romanian Core Network Corridors (3/year)
2. **Support the market penetration of CNG** in Romania through (i) dissemination, (ii) optimisation of the business-client relation & (iii) legislative & regulatory support activities

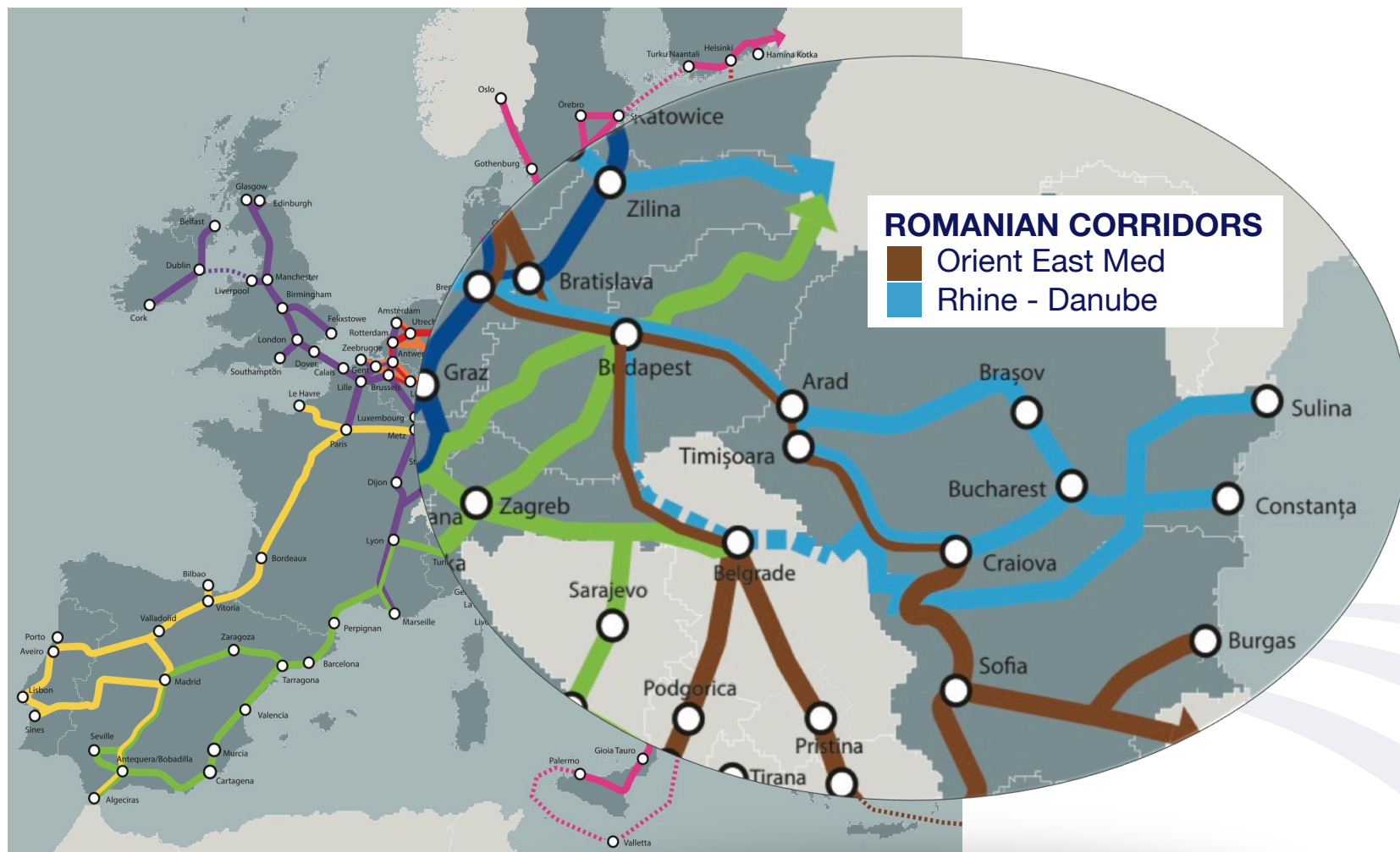


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 - Trans European Transport Network & CEF Corridors in Romania
 - CNG Romania Station Network & Deployment Strategy
- IV. PRESENTATION OF THE CNG STATIONS
- V. DISSEMINATION & SUPPORT ACTIVITIES



TEN-T CORRIDORS

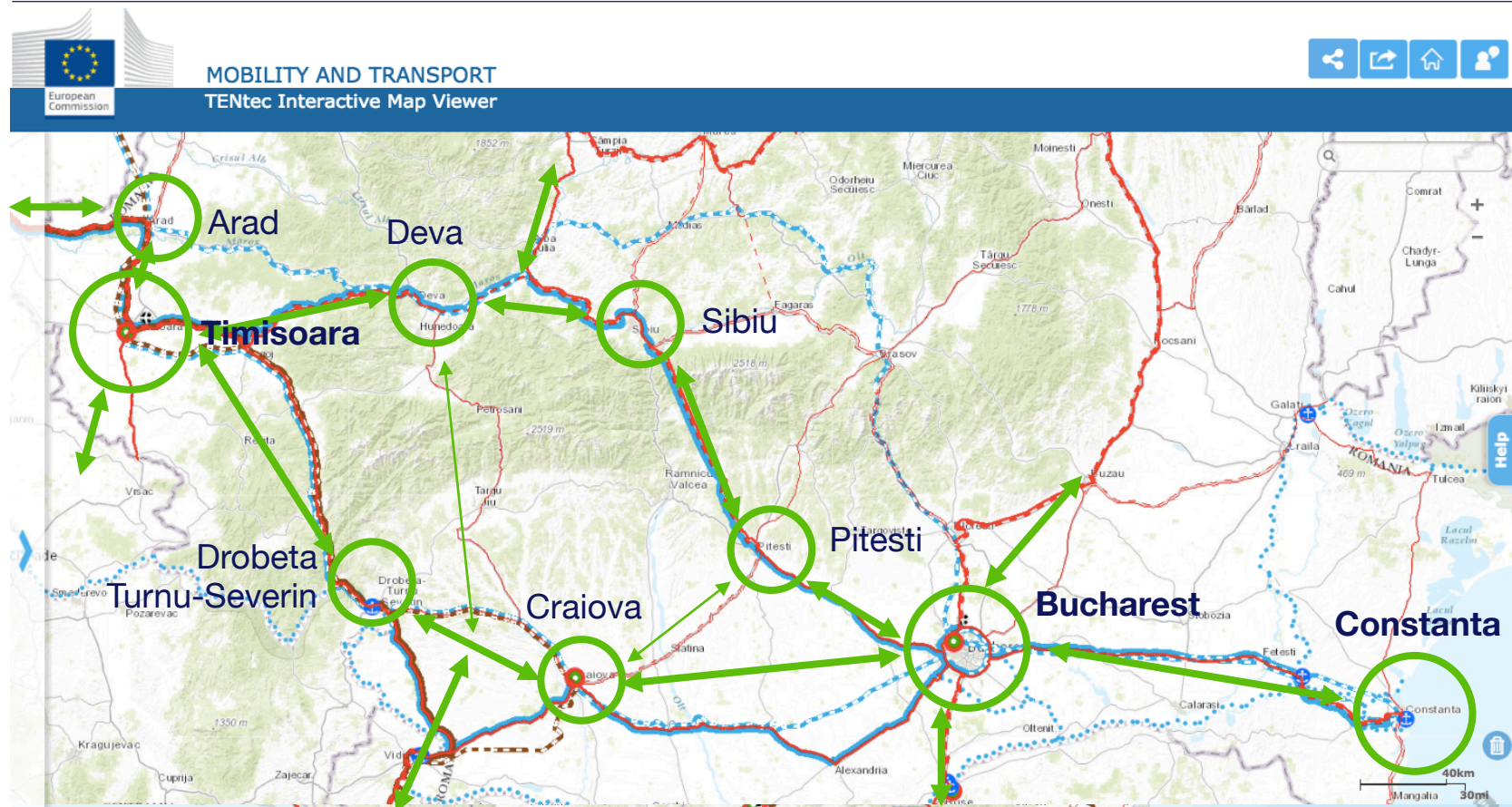


CNG STATION NETWORK: DEPLOYMENT LOCATIONS ON THE TEN-T

- => Cover **demand from urban transport** in the most populated areas
- => Cover demand from transiting **long-distance transport**
- Deployment along the Romanian **Core Network Corridors**
 - > Rhine Danube Corridor: between Arad and Constanta (north and south route)
 - > Orient East-Med: between Arad and Calafat (connecting the Hungarian and Bulgarian borders)
- Cover the Romanian Core **Urban Nodes** (Annex II, Directive 1315/2013/EU)
 - > Bucharest, Timisoara
- Cover **Rail-Road terminals** of the Core Network (cf. point 2. Annex II Directive 1315/2013/EU):
 - > Bucharest, Craiova, Timisoara
- Cover the **Sart/End** point of the Rhine Danube Corridor:
 - > Constanta
- Guaranty a minimum **network coverage**:
 - > ca. 150km (requirement from DAFI - 94/2014/EU) but not more than 300km
- continuity of the network for **cross-border traffic**
- Guaranty a good **connectivity to the natural gas grid**



CNG STATION NETWORK: DEPLOYMENT LOCATIONS ON THE TEN-T

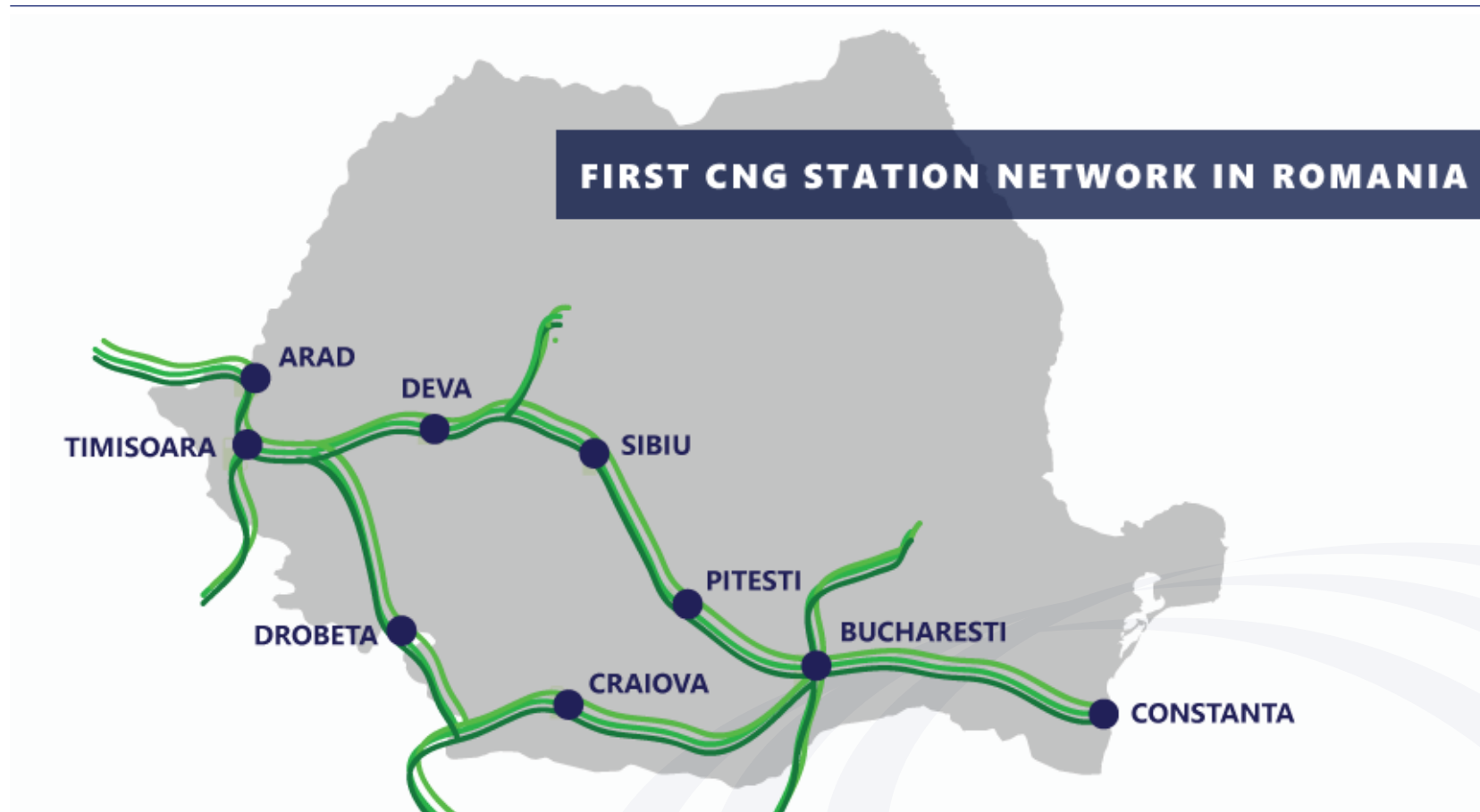


CNG STATION NETWORK: DEPLOYMENT LOCATIONS ON THE TEN-T

LOCATION:	Corridor / Road Core Network	TEN-T Core Network Node	Rank & Population size	Distance to the next CNG station	94/2014/EU Requirements ✓ = less than ca. 150km ○ = less than 300km X = more than 300km
BUCHAREST	- Rhine Danube - Core Road	- Urban node - RRT - Airport	Nr. 1 1.877.155	- Pitesti: 119km - Constanta: 225km - Craiova: 228 km - Ruse (BG): 76km	✓ ○ ○ ✓
TIMISOARA	- Rhine Danube - Orient East-Med - Core Road	- Urban node - RRT - Airport	Nr. 4 315.053	- Arad: 58km - Deva: 153km - DT Severin: 229km - Szeged (HU): 117km - Zrenjanin (RS): 93km - Pancevo (RS): 139km	✓ ✓ ○ ✓ ✓ ✓
CRAIOVA	- Rhine Danube - Core Road	- RRT	Nr. 5 304.142	- Bucharest: 228km - Pitesti: 123km - DT Severin 162km (111km) - Vidin (BG): 102km	○ ✓ ✓ ✓
CONSTANTA	- Rhine Danube - Core Road	- Maritime Port - Inland Port	Nr. 6 303.399	- Bucharest: 225km - Dobrich (BG): 100km	○ ✓
PITESTI	- Rhine Danube - Core Road		Nr. 14 167.669	- Bucharest: 119km - Sibiu: 162km - Craiova: 123km	✓ ✓ ✓
SIBIU	- Rhine Danube - Core Road		Nr. 15 151.894	- Pietesti: 162km - Deva: 118km	✓ ✓
ARAD	- Rhine Danube - Orient East-Med - Core Road		Nr. 13 169.065	- Timisoara: 58km - Szeged (HU): 100km	✓ ✓
DROBETA TURNU- SEVERIN	- Rhine Danube - Orient East-Med - Core Road	- Inland Port	Nr. 25 102.346	- Craiova: 162km (111km) - Timisoara: 229km - Vidin (BG): 110km - Kragujevac (RS): 267km	✓ ○ ✓ ○
DEVA	- Rhine Danube - Core Road		Nr. 37 67.802	- Timisoara: 153km - Sibiu: 118km	✓ ✓



CNG STATION NETWORK: DEPLOYMENT LOCATIONS ON THE TEN-T



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 - Commercial Details
 - Technical Layout & Architecture
 - Station Design
- V. DISSEMINATION & SUPPORT ACTIVITIES

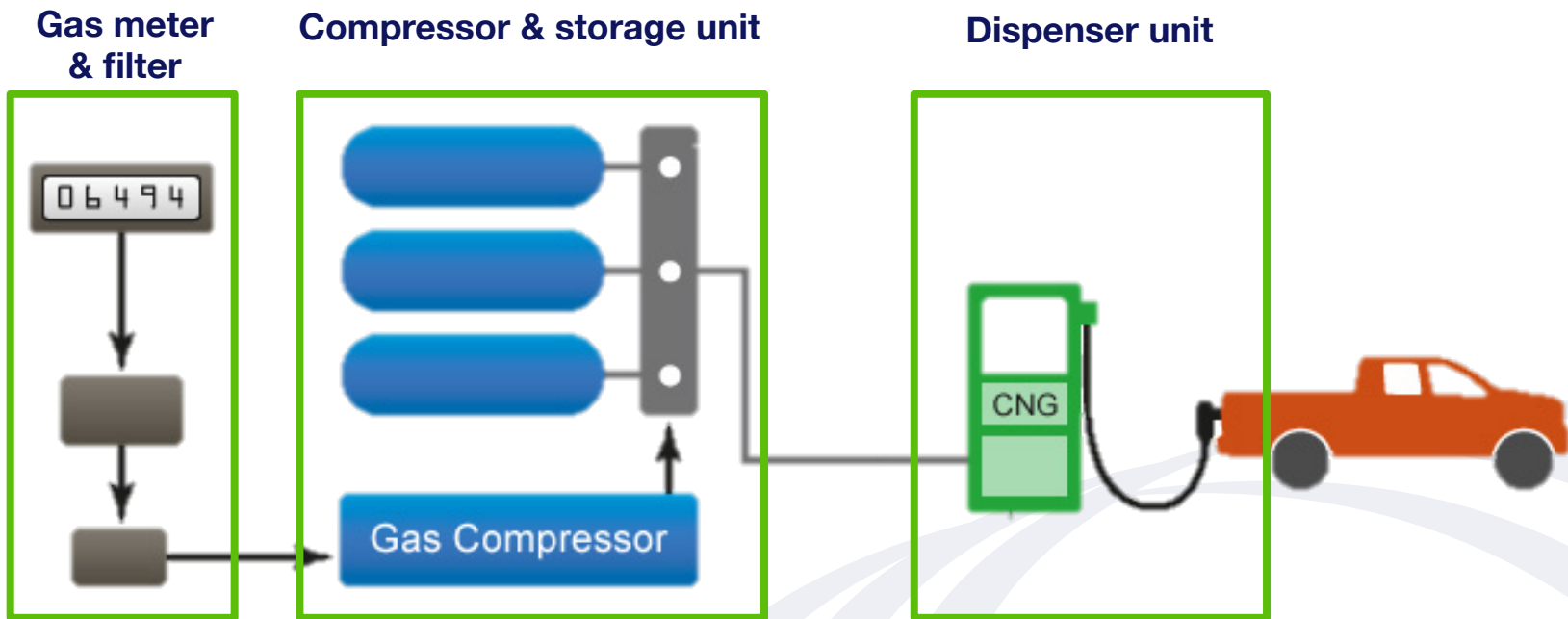


CNG STATIONS: COMMERCIAL DETAILS

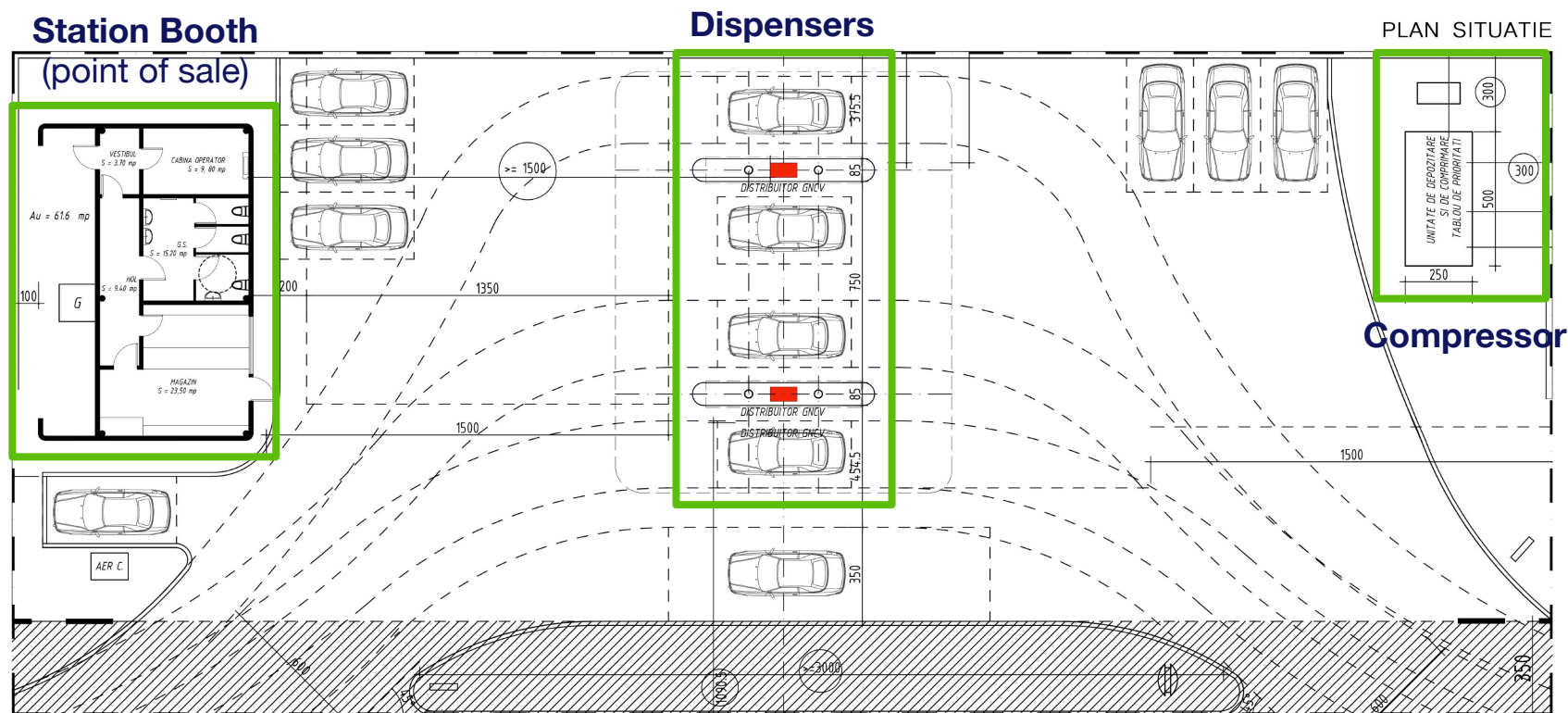
- > **Publicly accessible** stations
- > Opened between **8-24h / day** (depending on initial demand situation)
- > specially **trained staff** to operate stations & fuel vehicles
 - => customers/drivers don't need extra knowledge
- > payment **with cash, credit card**, etc.
 - => commercial solutions for fleet operators are being developed



CNG STATIONS: TECHNICAL COMPONENTS



CNG STATIONS: BASIC ARCHITECHTURE



CNG STATIONS: **STATION DESIGN (PREVIEW)**



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 - Communication & Dissemination
 - Optimisation of the Business-Client relation
 - Legislative & Regulatory Support





THANK YOU FOR YOUR ATTENTION



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