CABO VERDE
THE MID - ATLANTIC GATEWAY TO THE WORLD'S ECONOMY

VI German Energy Business Mission

Symposium:

Energy Infrastructure for Electric Mobility in Cape Verde

ELECTRIC MOBILITY ACTION PLAN

Rito Évora

DNICE

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Content

1. The National Energy Context;
2. Electric Mobility Charter and Action Plan.
    1. The NAMA Support Project:**"Promotion of Electric Vehicles in Cabo Verde";**
    2. Electric Mobility for the Maritime Transportation and Other emerging opportunities.
3. Energy Infrastructure for E-Mobility Transition.

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The National Program for Energy Sustainability (NPES)

The long-term strategy is to accomplish the transition to an energy sector that is:

- secure,
- efficient,
- sustainable, without reliance on fossil fuels and,
- to insure universal access and energy security.

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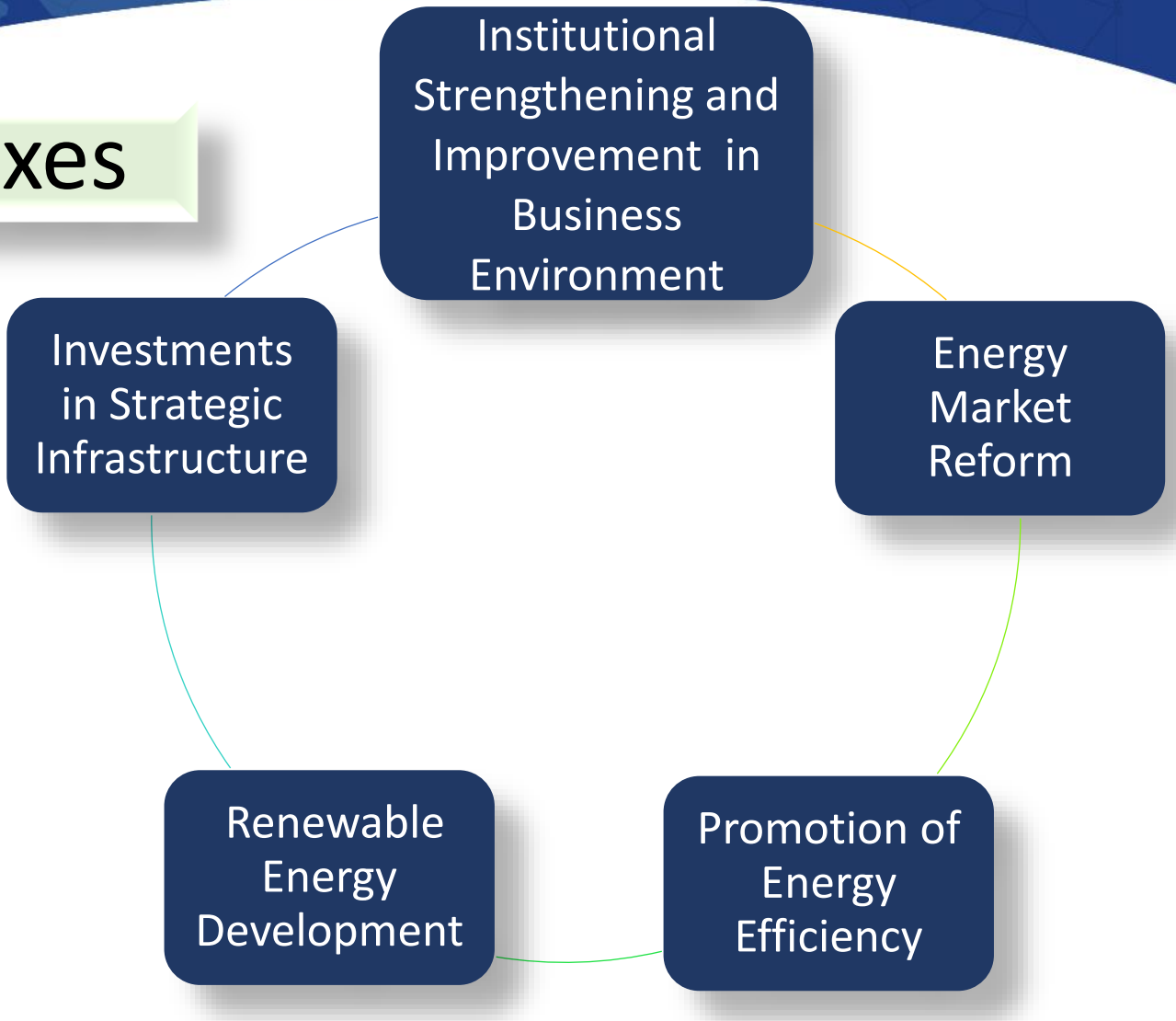
NPES main Axes



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Electric Mobility charter:

- Strategic vision for the adoption of electro-mobility in the country and the implementation of a public charging infrastructure.
- Key objectives:
  - Public Administration with 100% of electrical vehicles by 2030.
  - National public charging infrastructure by 2030.
- All vehicles to be electrical by 2050

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Action Plan

Vehicle Axis

Updating the legal framework; Incentives for VE; Participation of the Public Administration in the Promotion of the Electric Mobility Market;

Recharging Infrastructure Axis

Definition of the standards to be adopted in Cape Verde; Management of the implementation of the National Recharge Infrastructure (INR); Mobilize Resources to Support the Acquisition of Private Recharge Stations; Guarantee the Right of Access to Recharge Points;

Energy Axis

Approve Technical and Safety Regulations; Ensure the Quality of Electric Energy Service; Reform the Tariff Structure; Regulate Commercial Relations.

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Background on NSP

- An initial assessment of the potential of electric vehicles (EV) in CV was conducted by GIZ with funding from the NAMA Facility (NF) at the beginning of 2018
- GIZ and the Ministry of Industry, Commerce and Energy (MICE) jointly participated in the 5th Call of the NAMA Facility and submitted an Outline for a project to promote Evs in March 2018
- An interministerial working group led by MICE developed an ambitious Electric Mobility Policy and Action Plan that was adopted in February 2019
- Several studies on EM conducted during the detailed preparation phase (DPP) of the NSP
- The full proposal for the NSP was submitted in December 2019 and approved in June 2020

NSP Application Process & Timeline

Implementation period: 06/2020 – 05/2025

- Phase 1: 06/2020 – 06/2021 *(pending upon approval of request for extension)*
- Phase 2: 07/2020 – 05/2025

Funding: NAMA Facility

Budget: approx. 7.2 million EUR

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PromAE

Output 1	Electric Mobility Facility
Output 2	Commercial charging infrastructure
Output 3	Legal and regulatory framework
Output 4	Electric buses
Output 5	Capacity development
Output 6	Monitoring and reporting of GHG emissions
Output 7	Awareness raising
Output 8	Grid integration

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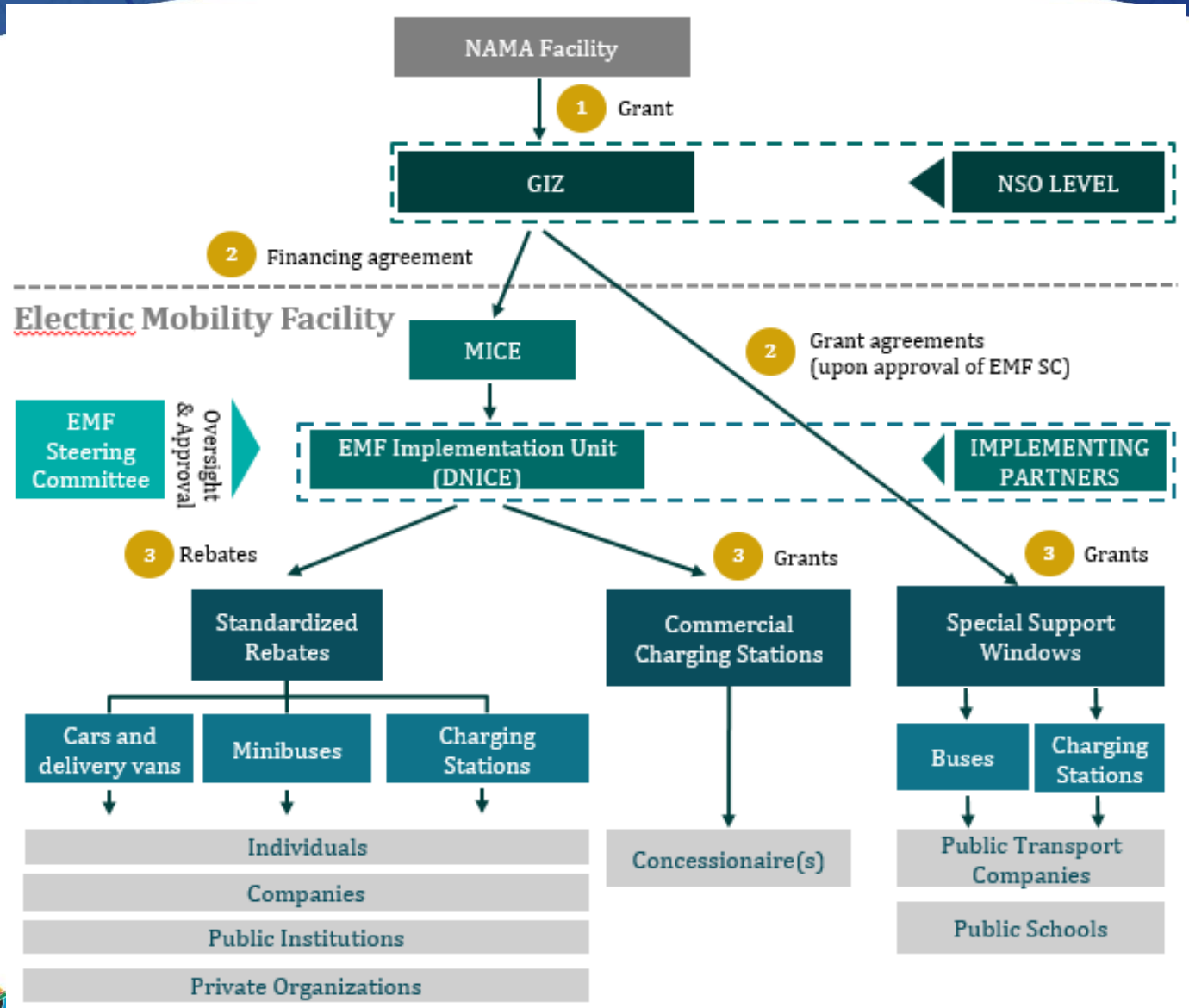
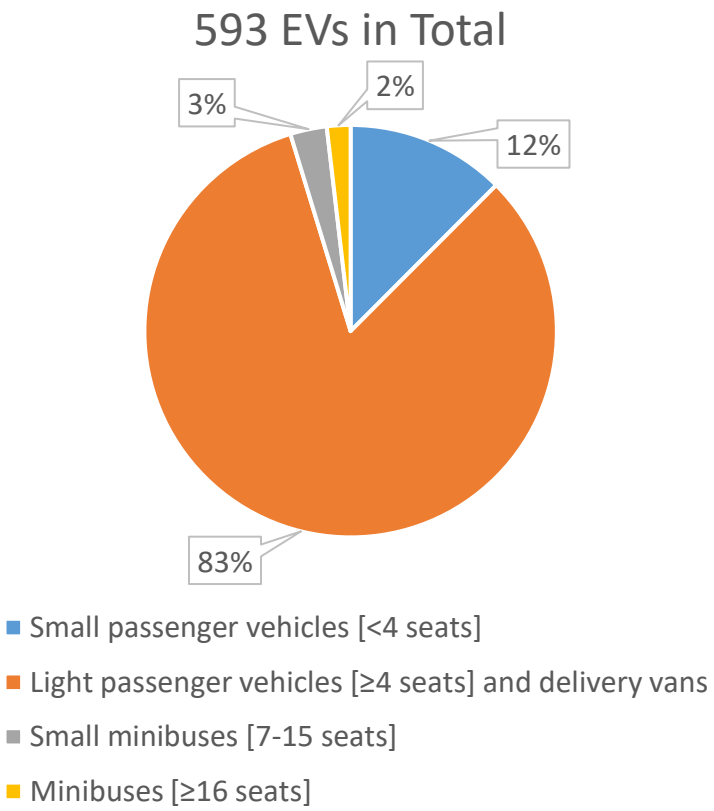
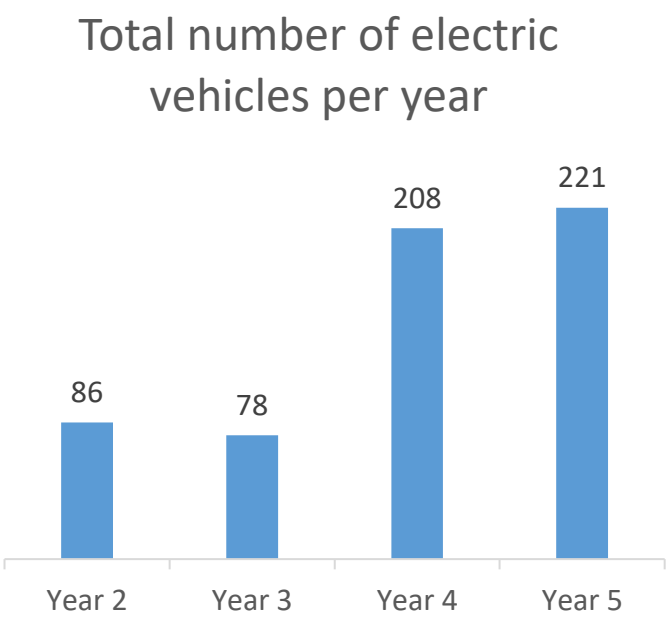

NAMA Facility
1 Grant
GIZ
NSO LEVEL
2 Financing agreement
Electric Mobility Facility
MICE
2 Grant agreements (upon approval of EMF SC)
EMF Steering Committee
Oversight & Approval
EMF Implementation Unit (DNICE)
IMPLEMENTING PARTNERS
3 Rebates
3 Grants
3 Grants
Standardized Rebates
Commercial Charging Stations
Special Support Windows
Cars and delivery vans
Minibuses
Charging Stations
Buses
Charging Stations
Individuals
Companies
Public Institutions
Private Organizations
Concessionaire(s)
Public Transport Companies
Public Schools

Standardized Rebates - Estimated distribution of EVs

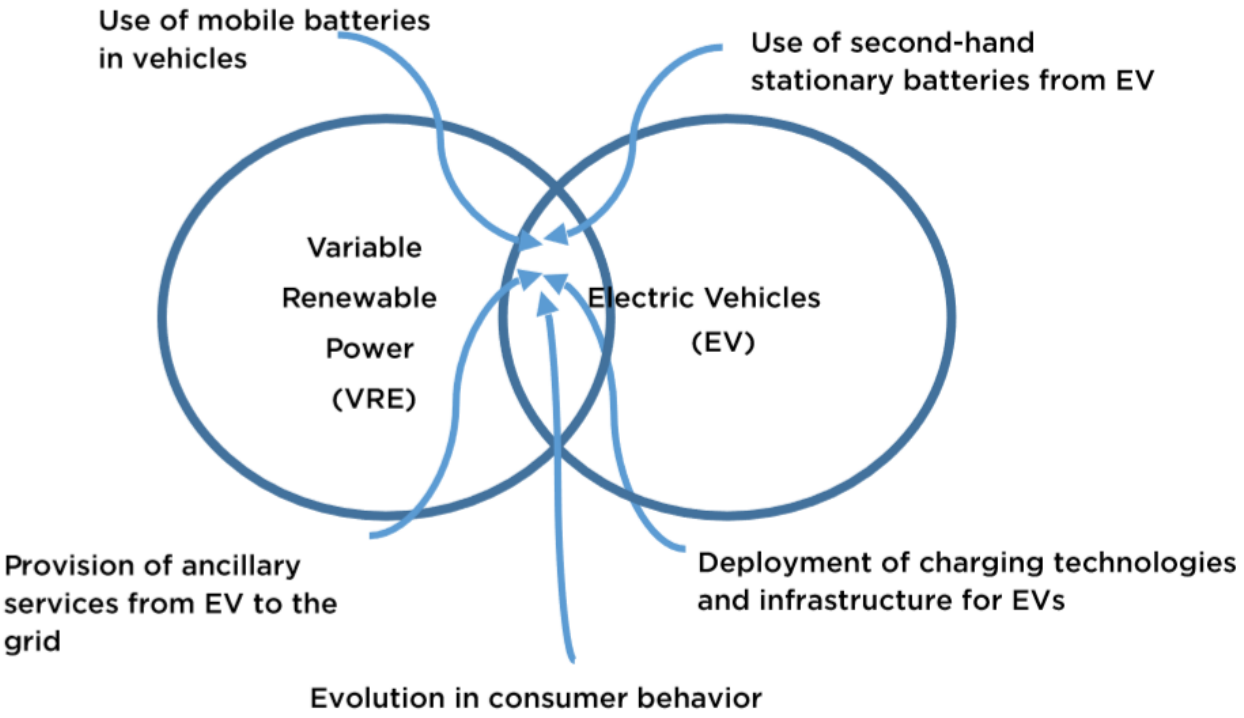




Source: PromAE Concept

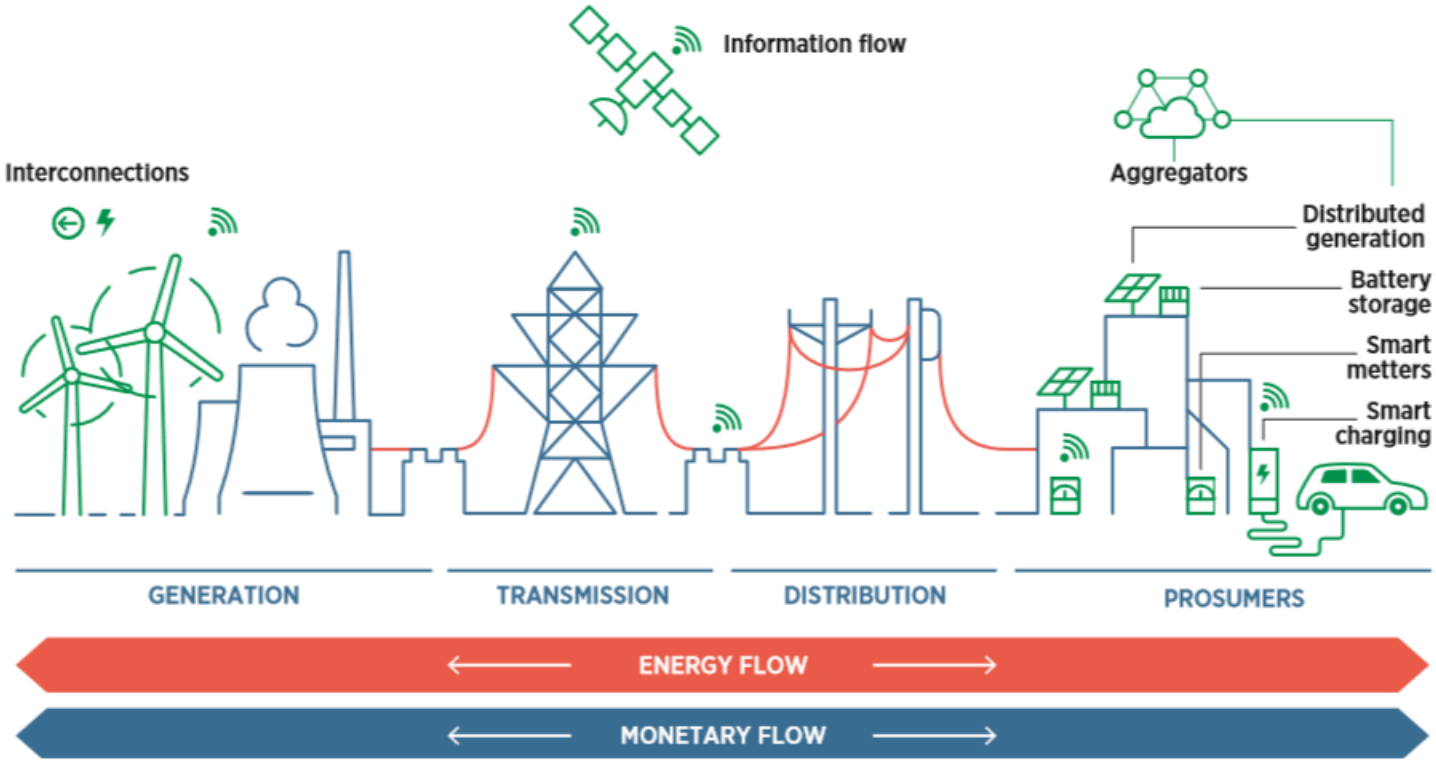
To Maximize Synergies with Energy Transition

Figure 10: How electric vehicles could attract more renewable power



Fonte relatório IRENA

NEW PARADIGM OF THE ENERGY SUPPLY CHAIN



Fonte :IRENA

SG projects to be implemented by 2030

Objective	Short term (2021)	Medium term (2025)	Long term (2030)
1. Renewable share increase	Advanced **RES forecasting** procedure revision & SCADA implementing **ESS management module** implementation in SCADA/EMS		
2. System stability	**TOU tariff** revision and implementation (data collection and billing) **Market revision** for RES and ESS participation in Anciliary services	Voltage VAR optimisation	
3. Loss reduction	**Smart Meter (AMI)** Deoployment Unified **Billing system** and customer account migration	**Data Analytic** Fraud Pevention	**Advanced Outage Management System**
4. Gen. & Op. cost reduction	**DR** program implementation	**DSM** program implementation	**Advance Asset Management** System Implementation
5. On-grid DER Management	Auto-generation Connection Procedure (**Tech. Assessment**) **DER module** in SCADA/DMS	Demand and Generation **Aggregation** Platform	
6. Energy efficiency	Demand Management program (**DR and DSM**) Customer campaing &Web **Portal**		**Smart Building** Control System
7. Quality of supply	**Protection Selectivity** Study Unified **quality index** procedure, measure and register (using SCADA and AMI data)		
8. ICT and CS Enhancing	**IT dept.** re-structuring	**Security policy** development and monitoring **Communication** requirement assessment and assignation	
9. E-Mobility		Public **EV** charging **infrastrature** Implementation G2V module implementation	

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Thank you!

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