



OPTIT
optimal solutions

**Analytics and Optimization
towards Operational Excellence**

Focus: Horizon matchmaking

Company Profile



Accredited Spin-off of the Alma Mater Università di Bologna ([Operations Research and Management Science](#)). We design, develop and provide [state-of-art Solutions](#) and Services in [Advanced Analytics](#) and [Optimization](#)



We integrate the talent of highly skilled Data Scientists, Business Consultants and SW Development Engineers to support our Customers and Partners in their [Digital Innovation](#) roadmap



We enable efficiency and effectiveness for [medium](#) and [large enterprises](#) in [several industries](#) (Energy, Waste, Logistics, Retail), unlocking exceptional returns on investments ([ROI](#))



[Bologna](#): Consultancy Services and Commercial HQ

[Cesena](#): Software Factory

Our target Markets



ENERGY

CHCP Systems'
Generation
Management
DHC Operations and
Development
Optimization
DHC Network
Maintenance Planning



WASTE

Collection Services
On Demand Logistics
Waste Supply Chain
Waste Asset Allocation
Digital Innovation
strategy



ANALYTICS & OPTIMIZATION

Advanced &
Customized Models
And Algorithms
Business Intelligence
Machine Learning And
Data Science
Data Mining



LOGISTICS & SUPPLY CHAIN

Distributive Logistics
Network Design
3-2d Bin Packing
Workforce Strategic
Placement
Fleet Track & Tracing



DIGITAL INDUSTRY

Data Structuring &
Management
Process Workflow
Digitalization
Industry 4.0 Data
Exploitation
Customized Decision
Support Systems

Our current EU projects



European District Heating Improvements - Upgrading 8 DH networks with investment evaluation and scenario analysis



Integrated Planning of Multi-Energy Systems - Design of efficient transition paths for future energy systems, on both generation and infrastructure at national and local level



Industrial Retrofitting Support System - Implementation of a Smart Retrofitting Framework (DSS) in 5 Energy Intensive Industries (REIIs)



Trustworthy Planning and Scheduling with Learning and Explanations - transparent, robust and safe algorithmic solutions for planning and scheduling, combining symbolic P&S methods with data-driven methods, on quite different 5 use cases

Screenshots from the PlaMES tool

Map High Level filters

Instance Name

Action «button»

Notification Menù

Layer menù

PlaMES Germany All Instance selected: baseline_large

376.64 [TWh] 473.00 [TWh] 212.10 [TWh] 317.19 [GW] 45.41 [GW] 555.24 [TWh] 58.87 [TWh] [%] 91.50 [MtonCO2] 267.64 [B€] 0.31

KPI Table Substation: S442 Node: All

Load type	Peak Load [MW]	Energy Demand [MWh]
Electricity Baseload	23.39	122375.46
Heat Demand	52.88	264493.39
Fuel Consumption		6698208.06

Technology	El. Power [MW]	El. Generation [MWh]	Th. Power [MW]	Th. Generation [MWh]
Total	7970.97	7165728.23	50.51	264490.90
Total Non Renewable	56.90	13968.86	0.00	13968.86
District Heating SCGT (back pressure)	56.90	13968.86	0.00	13968.86
Total Renewable	5629.38			
Onshore wind turbines	5227.08			
Photovoltaic	63.27			
Biomass	339.03			
Total Other	2284.69			
Electrolyzer (H2)	2238.10			
Local heat pumps	20.15			
Large heat pumps (air) 100°	0.01			
electric boiler	26.42			
PEM fuel cell with heat	0.01			
Slack	0.00			
Curtailment	0.00			
Large-Scale hot water tanks				

Map

Generation

Technology for energy generation	Associated network	Min power [MW]	Default power [MW]	New max power [MW]
Battery storage	EE	4.92	3000	3000
Biogas	EE	7.52	3000	3000
Biomass	EE	9.21	3000	3000
CO2eq [t]	EE	4.04	3000	3000
Combined Cycle Gas Turbine	EE	1.94	3000	3000
Combined Cycle Gas Turbine CC	EE	1.95	3000	3000
Curtailment	EE	2.00	3000	3000
District heating demand	EE	1.41	3000	3000
District Heating SCGT (back pres	EE	4.15	3000	3000

TEP parameters

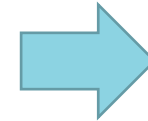
Input	Value
Costs DC conv	100
Cost OFF	100
Cost ON	100
Costs PST	100
Cost PV	100
Costs pylons 220_2	100
Costs pylons 220_4	100
Costs pylons 380_2	100
Cost RES	101

This project has received the content of this research from the European Union (EASME).



Advantages of a collaboration with Optit

- Possibility to cover a large set of tasks:
 - **Consulting** for functional and process analysis
 - **System modeling** for both simulation and optimization
 - **Technical design** of tools and system integrations
 - **Software tools** implementation
 - **Data science** consulting and data analysis
 - Also **project coordination** and **dissemination/communication**, if needed
- **Domain knowledge** of energy system/markets (and others e.g. manufacturing, logistics)
- **Ability to reach a high TRL** in order to have a fully engineered tool ready for commercial exploitation
- **15 years of experience** with a documented success track (also on EU projects)



We are currently looking for consortiums to join about these topics:


- **HORIZON-CL5-2022-D3-03-04:**
Integrated wind farm control
- **HORIZON-CL5-2022-D3-03-08:**
Development of digital solutions for existing hydropower operation and maintenance

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