We create possibilities

Teaser of the project
“Hrechani Pody SPP”, Ukraine

HELIOS strategia

Design and construction solar power plant (153.3 MW) with Battery energy storage system (105MW/215MWh).
Forecast of the annual production of “green” electricity 190 325 MWh

March 2026

FES Hrechani Pody SPP plus BESS

The main highlights:

Area: 170 Ha

PV-modules: 235 877 pcs.

Installed power: 153 293 kWp

PV-inverters: 979 pcs.

Inverter power: 107 700 kW

BESS capacity: 105 MW/215MWh

Annual electricity produced (forecast): 190 325 MWh

Financial details

- NPV: 349.4 mln EUR/298.5 mln USD
- IRR: 20.02%
- PP: 4.9 years
- DPP: 7.5 years

Connection to the grid, include:

- technical conditions for reconstruction powerline 330 kV “Pivdenna Pershotravneva”
- construction of the new powerline 330 kV “VDGMK – Kremenchuk”, lengt ~100 km

Estimated costs:

BESS : € 24 mln

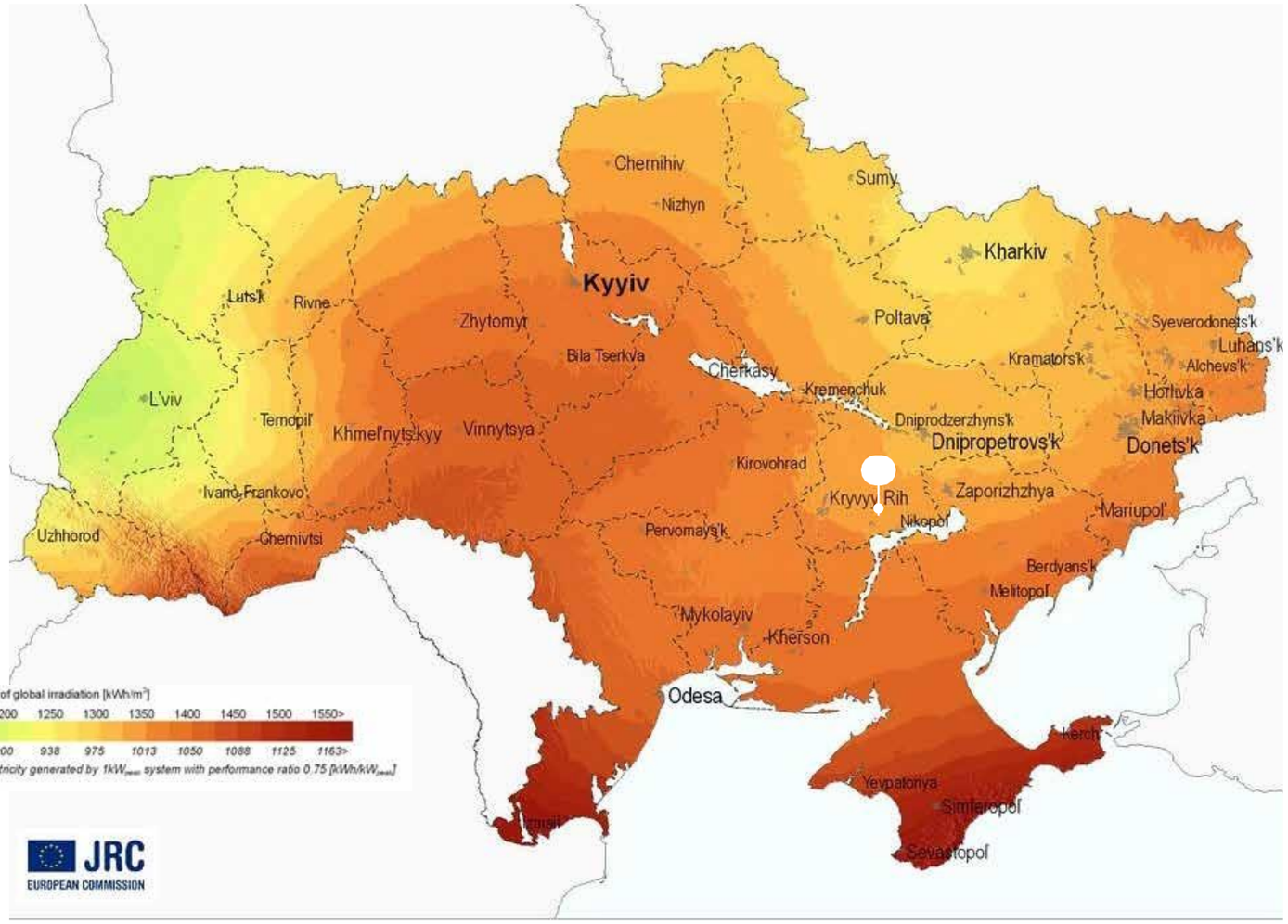
SPP construction : € 76.7 mln

Total project: € 112 mln

Total cost per 1 W : € 0,61

Technical Indicators

Global irradiation and solar electricity potential of the location



Location

GPS: 47.784566, 33.461278

Dnipro region,
Shirokivskyi district,
Grechanopodivska s / r

Land Plot

170 Ha

Rent, all documents provided
(till 2072 year)

Producing Indicators (PVsyst V8.0.7)

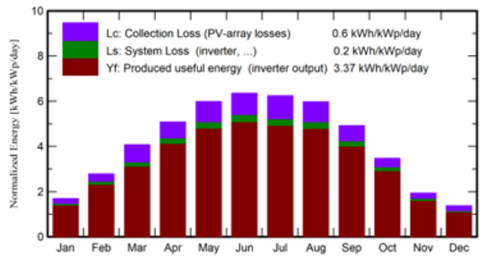
PVsyst V8.0.7
VC2, Simulation date:
26/02/25 14:14
with V8.0.7

Project: 1476LG_1_Grechani_Podu(Shiroke)
Variant: SMA110_Longi610_80Ha
Heliso Strategia (Ukraine)

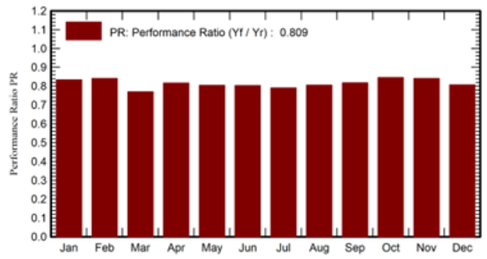
Main results

System Production
Produced Energy 89308 MWh/year
Specific production 1230 kWh/kWp/year
Perf. Ratio PR 80.92 %

Normalized productions (per installed kWp)



Performance Ratio PR



Balances and main results

	GlobHor kWh/m²	DiffHor kWh/m²	T_Amb °C	GlobInc kWh/m²	GlobEff kWh/m²	EArray MWh	E_Grid MWh	PR ratio
January	32.0	20.00	-3.30	52.5	45.5	3350	3179	0.834
February	52.2	28.20	-2.62	77.7	72.4	5002	4742	0.840
March	96.6	46.10	2.93	126.4	119.3	7463	7065	0.770
April	136.0	72.40	10.38	152.5	142.9	9568	9036	0.816
May	179.2	79.10	17.17	185.6	174.5	11481	10831	0.804
June	192.8	87.70	20.57	190.7	179.1	11789	11119	0.803
July	193.4	82.30	23.45	193.6	182.0	11773	11113	0.791
August	165.9	64.80	23.13	185.4	175.6	11476	10827	0.805
September	120.2	57.30	16.44	147.6	138.9	9274	8754	0.817
October	76.6	38.00	9.41	107.7	100.9	6983	6606	0.845
November	35.9	20.30	3.59	58.0	52.1	3736	3539	0.840
December	25.9	17.20	-0.85	42.6	35.8	2624	2496	0.807
Year	1306.7	613.39	10.10	1520.4	1419.0	94521	89308	0.809

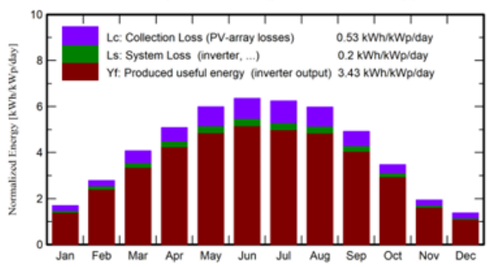
PVsyst V8.0.7
VC3, Simulation date:
26/02/25 13:34
with V8.0.7

Project: 1476LG_1_Grechani_Podu(Shiroke)
Variant: SMA110_Longi610_90Ha
Heliso Strategia (Ukraine)

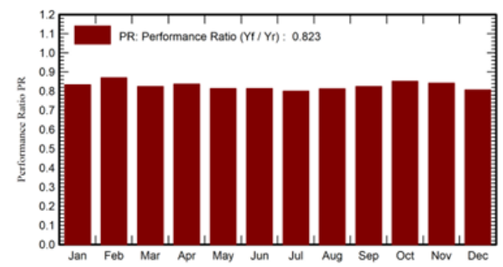
Main results

System Production
Produced Energy 101.02 GWh/year
Specific production 1252 kWh/kWp/year
Perf. Ratio PR 82.33 %

Normalized productions (per installed kWp)



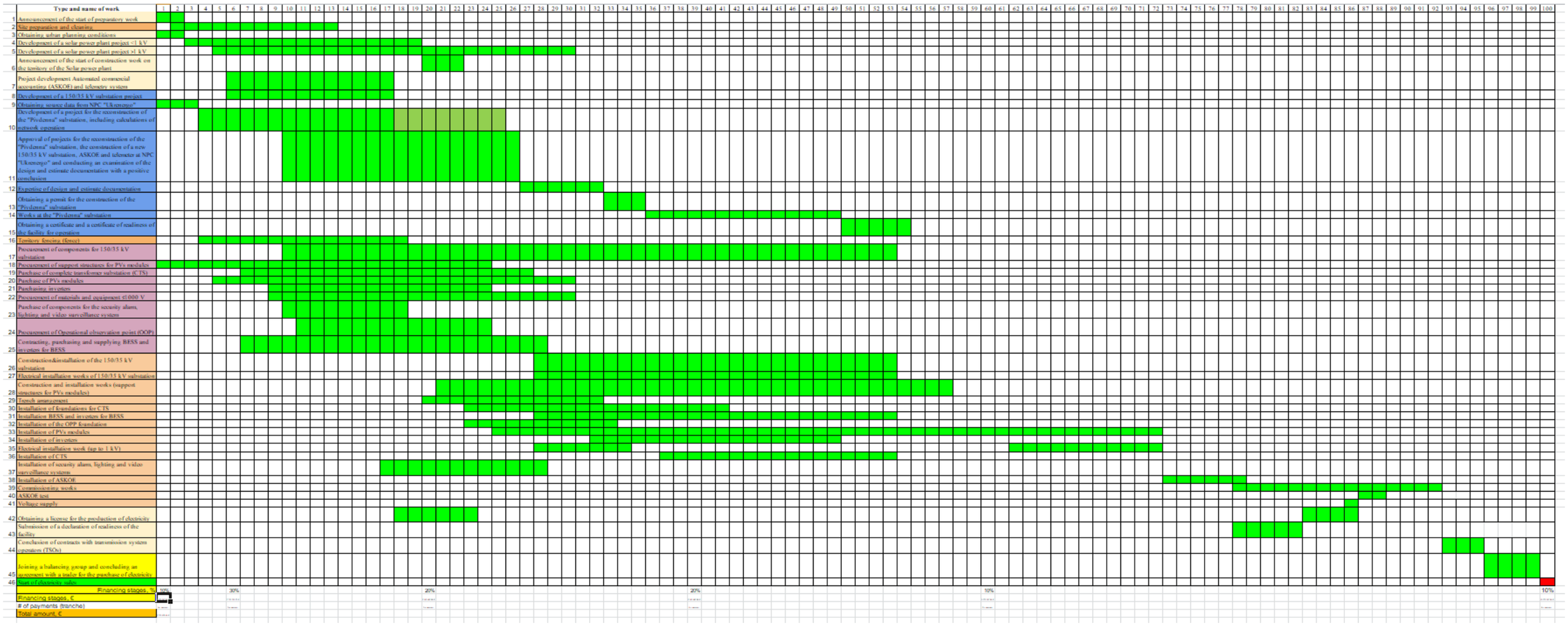
Performance Ratio PR



Balances and main results

	GlobHor kWh/m²	DiffHor kWh/m²	T_Amb °C	GlobInc kWh/m²	GlobEff kWh/m²	EArray GWh	E_Grid GWh	PR ratio
January	32.0	20.00	-3.30	52.5	45.5	3.73	3.53	0.833
February	52.2	28.20	-2.62	77.7	72.4	5.77	5.46	0.871
March	96.6	46.10	2.93	126.4	119.3	8.91	8.42	0.825
April	136.0	72.40	10.38	152.5	142.9	10.93	10.30	0.837
May	179.2	79.10	17.17	185.6	174.5	12.93	12.19	0.813
June	192.8	87.70	20.57	190.7	179.1	13.29	12.52	0.813
July	193.4	82.30	23.45	193.6	182.0	13.27	12.51	0.801
August	165.9	64.80	23.13	185.4	175.6	12.90	12.15	0.812
September	120.2	57.30	16.44	147.6	138.9	10.42	9.83	0.825
October	76.6	38.00	9.41	107.7	100.9	7.83	7.40	0.851
November	35.9	20.30	3.59	58.0	52.1	4.16	3.94	0.841
December	25.9	17.20	-0.85	42.6	35.8	2.92	2.77	0.806
Year	1306.7	613.39	10.10	1520.4	1419.0	107.05	101.02	0.823

Plan of works (in weeks) – total 100 weeks



Total project`s investments - €112 mln

Investments timeline by payments, in €

	Investment timeline							
	Total investments, EUR	112 000 000,00						
# payment	Scope of works	Breakdown	1 week	6 week	20 week	39 week	60 week	100 week
1	Preparation works: Site preparation and cleaning, Obtaining urban planning conditions, Obtaining source data from NPC "Ukrenergo", Procurement of support structures for photovoltaic modules (PVs)	10%	11 200 000,00					
2	Preparation works: Site preparation and cleaning, Development of a solar power plant project up to 1 kV, Development of a photovoltaic power plant project over 1 kV, Project development Automated commercial accounting (ASKOE) and telemetry system, Development of a 150/35 kV substation project, Development of a project for the reconstruction of the "Pivdenna" substation, including calculations of network operation, Territory fencing, Procurement of support structures for photovoltaic modules (PVs), Contracting, purchase and supply of PVs modules, inverters, BESS, inverters fo the BESS	30%		33 600 000,00				
3	Development of a photovoltaic power plant project over 1 kV, Announcement of the start of construction work on the territory of the Solar power plant, Development of a project for the reconstruction of the "Pivdenna" substation, including calculations of network operation, Approval of projects for the reconstruction of the "Pivdenna" substation, the construction of a new 150/35 kV substation, ASKOE and telemeter at NPC "Ukrenergo" and conducting an examination of the design and estimate documentation with a positive conclusion, Procurement of components for 150/35 kV substation, Procurement of support structures for photovoltaic modules (PVs), Purchase of a complete transformer substation (CTS), Purchase of PVs modules and inverters, Procurement of materials and equipment up to 1000 V, Procurement of Operational observation point (OOP), Trench arrangement, Installation of security alarm, lighting and video surveillance systems, Obtaining a license for the production of electricity	20%			22 400 000,00			
4	Works at the "Pivdenna" substation, Procurement of components for 150/35 kV substation, Construction and installation works of the 150/35 kV substation, Electrical installation works of 150/35 kV substation, Construction and installation works (support structures for PVs modules), Installation of foundations for CTS, Installation of PVs modules and inverters, Installation of CTS, Installation BESS and inverters for the BESS	20%				22 400 000,00		
5	Installation of PVs modules, Electrical installation work (up to 1 kV), Installation of ASKOE, Commissioning works, Obtaining a license for the production of electricity, contracts signation	10%					11 200 000,00	
6	End of the works: Commissioning works, Tests, agreements etc	10%						11 200 000,00
		100%						

Financial model of the project (preliminary version)

PV Solar with BESS project: Financial Model

Assumptions	
Location	**Data**
Country	Ukraine
Region (oblast, voevodstva)	Dnipro region
Solar radiation index (MW per 1 MW AC)	1282
Area, Ha	170
Currency	**1000'EUR**
Exchange rate EUR/UAH (Source: NBU on 03.03.2026)	50,6014
Exchange rate USD/UAH (Source: NBU on 03.03.2026)	43,2343
Facilities characteristics	
DC capacity, MW	153,32
AC capacity, MW	107,72
BESS capacity, MWh	215,44
Annual Electricity Production, MWh	190 325
Annual decline in PV production, %	0,3%
Annual decline in BESS production, %	1,0%
Main sales characteristics	
Average sale price to the Energy company, EUR per MWh	88,0
Annual income from the sale of electricity via BESS, EUR per MWh	37,29
Loan's characteristics	
Loan interest rate	6%
Discount rate	3%
Income tax rate	18%
Annual inflation rate	3%
Timeline	
Project period, yrs	30
Depreciation period, yrs	10
Loan period, yrs	15
Project financing structure	**100%**
Loan	0%
Own funds	100%

Equipment selection	
Total installed power capacity (DC), Wp	153 320 000,00
PV-modules max power capacity, W	660
Quantity of the PV-modules, pcs	235 877
Inverter power capacity (AC), W	107 718 988,68
Iverter max power capacity, W	330 000,00
Iverter norm. power capacity, W	110 000,00
Quantity of the PV-inverters, pcs	979
Battery energy storage system (BESS) installed capacity, W	215 437 939,12

CAPEX	Price per W, in EUR	Amount, 1000'EUR
Project purchase/legal entities	0,0400	6 133
Electricity network connection	0,070	10 731
EPC Cost	0,39	59 795
BESS Cost	0,11	23 698
TOTAL	0,61	100 357
TOTAL (with VAT)		111 345,40

OPEX (per year)	Amount, 1000'EUR
Station service	414,0
Rent, all documents provided	93,9
Bookkeeping	1,2
Internet	0,6
Salary of director	21,6
Security	11,9
Insurance	0,05
Bank expenses	0
Supervisory control services, reactive energy flow, imbalances and deviations	670
TOTAL	1 213

Project financing structure, in EUR	in 1000'EUR
Total project financing needs, including:	100 357
Loan	0
Own funds	100 357

Flows modeling

Income Statement	year 1	year 2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	year 10	year 11	year 12	year 13	year 14	year 15	year 16	year 17	year 18	year 19	year 20	year 21	year 22	year 23	year 24	year 25	year 26	year 27	year 28	year 29	year 30	TOTAL
Productivity from sales from PV, MWh	190 325,1	189 754,1	189 184,8	188 617,3	188 051,4	187 487,3	186 924,8	186 364,0	185 804,9	185 247,5	192 031,6	191 455,5	190 881,1	190 308,5	189 737,6	189 168,4	188 600,8	188 035,0	187 470,9	186 908,5	186 347,8	185 788,8	185 231,4	184 675,7	184 121,7	183 569,3	183 018,5	182 469,3	181 922,1	181 376,4	5 610 880,5
Annual income from the sale of electricity via BESS, in 1000 EUR	8 034,7	7 954,3	7 874,8	7 795,0	7 716,1	7 640,9	7 564,5	7 488,8	7 414,0	7 339,8	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	76 825,9
																															0,0
																															0,0
																															0,0
Revenues from sales from PV, in 1000 EUR	16 925,7	17 296,8	17 676,0	18 063,5	18 459,6	18 864,3	19 277,9	19 700,6	20 132,5	20 573,9	20 573,9	22 339,0	22 829,7	23 330,2	23 841,7	24 364,4	24 898,6	25 444,5	26 002,4	26 572,5	27 155,1	27 750,5	28 358,9	28 980,7	29 616,1	30 265,4	30 929,0	31 607,1	32 300,1	33 008,3	727 139,9
TOTAL Revenue, in 1000'EUR	**24 960,4**	**25 251,1**	**25 550,8**	**25 859,0**	**26 177,7**	**26 505,2**	**26 842,4**	**27 189,4**	**27 546,5**	**27 913,7**	**20 573,9**	**22 339,0**	**22 829,7**	**23 330,2**	**23 841,7**	**24 364,4**	**24 898,6**	**25 444,5**	**26 002,4**	**26 572,5**	**27 155,1**	**27 750,5**	**28 358,9**	**28 980,7**	**29 616,1**	**30 265,4**	**30 929,0**	**31 607,1**	**32 300,1**	**33 008,3**	**727 139,9**
OPEX, in 1000'EUR	1 213,1	1 243,5	1 274,6	1 306,4	1 339,1	1 372,6	1 406,9	1 442,0	1 478,1	1 515,1	1 552,9	1 591,8	1 631,5	1 672,3	1 714,1	1 757,0	1 800,9	1 845,9	1 892,1	1 939,4	1 987,9	2 037,6	2 088,5	2 140,7	2 194,2	2 249,1	2 305,3	2 363,0	2 422,0	2 482,6	53 280,4
Depreciation, in 1000'EUR	10 035,7	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0										10 236,4
																															0,0
Total Expenses, in 1000'EUR	**11 248,8**	**1 253,5**	**1 284,6**	**1 316,5**	**1 349,1**	**1 382,6**	**1 416,9**	**1 452,1**	**1 488,1**	**1 525,1**	**1 563,0**	**1 601,8**	**1 641,5**	**1 682,4**	**1 724,2**	**1 767,0**	**1 811,0**	**1 856,0**	**1 902,1**	**1 949,4**	**1 997,9**	**2 037,6**	**2 088,5**	**2 140,7**	**2 194,2**	**2 249,1**	**2 305,3**	**2 363,0**	**2 422,0**	**2 482,6**	**63 499,7**
Income Tax, in 1000'EUR	2 488,1	4 319,8	4 397,9	4 417,8	4 489,1	4 522,1	4 578,8	4 602,7	4 690,5	4 760,0	3 422,0	3 792,9	3 813,9	3 896,8	3 981,2	4 067,5	4 156,8	4 246,9	4 338,0	4 432,2	4 528,3	4 628,3	4 728,7	4 831,2	4 936,9	5 042,9	5 152,3	5 263,9	5 378,0	5 494,8	133 284,4
Net Income, in 1000'EUR	11 248,5	19 678,0	19 868,3	20 126,4	20 369,4	20 600,5	20 848,9	21 104,8	21 367,8	21 638,7	15 588,0	17 006,2	17 374,2	17 751,2	18 138,4	18 529,8	18 931,8	19 342,8	19 762,2	20 190,9	20 628,9	21 084,8	21 641,7	22 008,8	22 486,9	22 973,4	23 471,4	23 980,2	24 500,0	25 031,1	907 184,8

	year 0	year 1	year 2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	year 10	year 11	year 12	year 13	year 14	year 15	year 16	year 17	year 18	year 19	year 20	year 21	year 22	year 23	year 24	year 25	year 26	year 27	year 28	year 29	year 30	TOTAL
Net Cash Flow, in 1000'EUR	-100 868,8	21 279,1	19 888,1	19 908,3	20 136,4	20 369,4	20 610,8	20 858,9	21 114,7	21 377,9	21 648,7	16 696,0	17 016,3	17 384,3	17 761,3	18 148,4	18 539,9	18 941,9	19 352,8	19 772,3	20 201,0	20 638,9	21 084,8	21 641,7	22 008,8	22 486,9	22 973,4	23 471,4	23 980,2	24 500,0	25 031,1	617 084,2
Discount factor	1,0000	0,9709	0,9426	0,9151	0,8885	0,8626	0,8375	0,8131	0,7894	0,7664	0,7441	0,7441	0,7014	0,6810	0,6611	0,6419	0,6232	0,6050	0,5874	0,5703	0,5537	0,5375	0,5219	0,5067	0,4919	0,4776	0,4637	0,4502	0,4371	0,4243	0,4120	
Discounted Cash-Flow	-100 868,8	20 669,8	18 667,9	18 218,9	17 890,0	17 570,8	17 261,0	16 960,2	16 668,1	16 384,4	16 108,7	11 607,1	11 934,2	11 837,8	11 742,8	11 647,6	11 553,6	11 460,2	11 367,8	11 276,8	11 184,8	11 094,4	11 003,9	10 915,0	10 826,9	10 739,4	10 652,8	10 566,8	10 481,2	10 396,5	10 312,5	298 622,5

Main project's indicators

Own funds, in 1000 EUR	100 357
Discounted cash flow/DCF, in 1000'EUR	398 979
NPV, in 1000'EUR	298 622
IRR, %	20,02%
PP, years	4,9
DPP, years	7,0

Other project's indicators

Implementation period (project launch duration), years	2	
Discount rate, %	3	
Number of new jobs, thousand people	0,153	0,347
	in 1000'EUR	in mln USD
Annual EBITDA	23 747	27,8
Annual taxes after reaching 100%	7311	8,6
Annual sales revenue	24 960,4	29,21

Number of new jobs, people

During the project implementation, including	**111**
Design and installation work	106 during the pick 300
Project managers (office)	5
After the project implementation, including	**42**
station employees (working in shifts, 3 shifts*9 person)	27
Electrician	3
Director	1
Accountant	1
Security	10

Project`s risks and mitigation measures

#	Name of risk (evaluation)	Mitigation measures
1	Geopolitical *(Major, Likely)*	Diversification (geographical, sectoral); Political risk insurance coverage; Scenario planning & risk assessment (regular risk analysis, contingency plans); Strengthening supply chains (flexible supply chains, nearshoring); Lobbying and engagement (Government, public diplomacy and partnerships); Financial hedging (currency and commodity hedging); Building local partnerships; Flexible business models (adaptable operations); Monitoring and intelligence gathering (real-time intelligence, social media monitoring); Crisis management plans (incl. Emergency response plans)
2	Operational (*Moderate, Unlikely)*	Process improvement and standardization, Employee training and development, Technology and automation, Cybersecurity measures, Supplier and vendor management, Internal controls and auditing, Business continuity and crisis management planning, Compliance and regulatory adherence, Insurance coverage, Monitoring and reporting systems, Cultural and organizational enhancements, Regular risk assessment and review
3	Financial *(Major, Possible)*	Market Risk (hedging, diversification, risk Limits); Credit risk (Credit assessment, collateral and guarantees, credit Insurance, diversification of counterparties); Liquidity risk (cash reserves, access to credit lines, regular cash flow forecasting, securitization); Interest rate risk (interest rate hedging, floating-to-fixed swaps possibilities, debt structure management, duration matching); Inflation risk (Inflation-protected securities, real assets, price adjustments); Operational risk (Internal controls and audits, automation and technology, training and awareness, business continuity plans); Systemic risk (Stress testing, capital adequacy, regulatory compliance)
4	Supply chain *(Moderate, Unlikely)*	Supplier diversification, Building strong supplier relationships, Inventory management and safety stock, Geopolitical risk monitoring, Cybersecurity measures, Transportation and logistics risk management, Business continuity and disaster recovery planning, Risk transfer through insurance, Quality control and audits, Supplier risk assessment and audits, Demand and supply planning, Collaborative risk sharing
5	Environmental (*Minor, Very unlikely)*	Environmental impact assessments, Adopting sustainable practices, Compliance with environmental regulations, Waste reduction and recycling programs, Water conservation and management, Pollution control and prevention, Biodiversity protection and conservation, Disaster preparedness and contingency planning, Green technologies and innovation, Employee training and awareness, Sustainable supply chain management, Carbon footprint reduction, Legal and regulatory compliance etc.

More details, see file in attachment

Summary matrix of the main general risks

Probability/Impact	Minor	Moderate	Major	Catastrophic
Likely (0.75-1)			1	
Possible (0.5-0.75)			3	
Unlikely (0.25-0.5)		2, 4		
Very unlikely (0-0.25)	5			

Note: These colour codes enable different zones to be established in the matrix that communicate different forms of action via a risk band.

	- Very high. Unacceptable risk. Requires urgent treatment		- High. Unacceptable risk. Action to be taken as soon as possible		- Medium. Tolerable only if the cost of reduction exceeds the improvement gained		- Low. Acceptable with periodic review and control

Contact us
to discuss our cooperation

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