







#### loannis Karampelas

CEO, ADMIE HOLDING SA



### lason Rousopoulos

Deputy CFO, IPTO GROUP

### Agenda

- 1 Companies' Overview & Regulation
- 2 Investment Program Summary
- 3. Financial Highlights
- 4. GRID Telecom
- 5. Appendix







### Disclaimer

This document contains forward-looking statements that involve risks and uncertainties. These statements may generally, but not always, be identified by the use of words such as "outlook", "guidance", "expect", "plan", "intend", "anticipate", "believe", "target" and similar expressions to identify forward-looking statements. All statements other than statements of historical facts, including, among others, statements regarding the future financial position and results of ADMIE Holding and ADMIE (IPTO), the outlook for 2020 and future years as per IPTO's business strategy and five-year business plan planning, the effects of global and local economic and energy conditions, the impact of the sovereign debt crisis, effective tax rates, future dividend distribution and management initiatives regarding ADMIE Holding's and IPTO's business and financial conditions are forward-looking statements. Such forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially, because current expectations and assumptions as to future events and circumstances may not prove accurate. Actual results and events could differ materially from those anticipated in the forward-looking statements for many reasons, including potential risks described in ADMIE Holding's Greek Information Prospectus originally drafted and approved by the Hellenic Capital Market Commission in the Greek language as well as Affiliate ADMIE's (IPTO) Annual Financial Report 31 December 2020.

ADMIE Holding S.A. is owner of a 51% stake in "Independent Power Transmission Operator S.A." (ADMIE/IPTO). EBITDA = Operating Income before Income tax and Financial Income (Expense) + Depreciation & Amortization.

### **ADMIE** at a glance



Network\* **12.393**km

\*11,968 km is the distance between Paris, France and Christmas Island, Australia

Sole Transmission System Operator (TSO) in Greece



1.600



**50.1** TWh





<sup>1</sup>forecast 31/12/2020 <sup>2</sup>relates to 12M 2020



### **Investment Proposition**

### Boosting dividend returns

Reduced borrowing costs and established minimum 50% earnings payout

#### **Natural monopoly in Greece**

12,393 km of HV transmission lines

#### **Investments**

c. €5b of cumulative investments from 2020 to 2030

### Rational regulatory environment

Independent authority prioritizing asset growth

### Leading TSO as Strategic Investor

State Grid International
Development, of China, holder
of 24% IPTO stake with
execution input



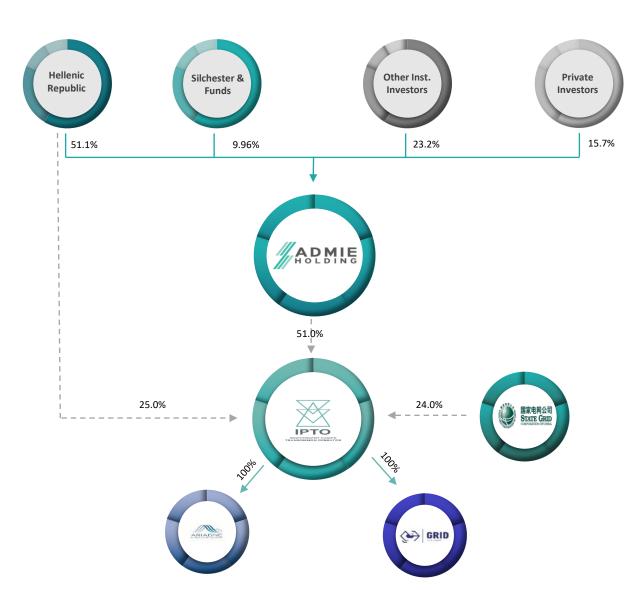


1.

# ADMIE HOLDING & IPTO S.A. Overview



#### **Shareholder Structure**



#### **Athens Stock Exchange**

**ATHEX:** ADMIE

31.12.2020

**Bloomberg:** ADMIE GA

Reuters: ADMr.AT

232,000,000 common shares



### Regulatory Framework

### Stable regulatory framework

- 4 year regulatory period during which the respective parameters remain stable
- Stabilitity is the guiding pillar of the regulator
- Approves Ten Year Network
   Development Plan

### No consumer credit risk

- Revenues are not depended on state payments
- Transmission operators do not have consumer credit risk

### Allowed Revenue

- Allowed revenues assure remuneration of cost of capital and cost of debt
- Remuneration is collected through System Users (suppliers) and passed over to final electricity consumers (ie companies and households)



#### Remuneration scheme

#### **Current Regulatory Framework**

**Regulatory Period** 

Four years for period 2018-2021

Regulatory Asset Base (RAB)

Undepreciated invested capital + maintenance/ development CapEx/ WiP + working capital - disposals - subsidies

Allowed Revenue (AR)

**Operator's Allowed Revenue** 

In real terms for each year

AR = O + D + R

0

: annual operating costs

R = RAB x WACC<sub>(real, pre-tax)</sub> Incentive : annual depreciation of fixed assets : return on employed capital

:100-250 bp for critical for 12 yrs

#### **New Regulatory Framework**

**Regulatory Period** 4-Year period for 2022-2025

Regulatory Asset Base Undepreciated invested capital + WiP + (RAB) development CapEx/ WiP + Working Capital - disposals - subsidies

Allowed Revenue (AR)

**Operator's Allowed Revenue** 

In <u>nominal</u> terms for each year AR = O + U + D + R + X - Y

O : annual Controlled Operating costs
U : annual non-controlled Operating costs
D : annual depreciation of fixed assets
R = RAB x WACC<sub>(nominal, pre-tax)</sub> : return on employed capital

X = SAB x WACC : return on Special Asset base for PMI projects
Y : amount from TSO income from non-regulated activities

Incentive : 0 - 200 bps for PMI projects for 4-7 yrs



### **Update Regulatory Framework**

IPTO's Proposal on Regulatory Period 2022-25

Allowed Revenue

€ 540.7 million

**RAB** (by 2025)

€ 2,384.3 million

Special RAB (for PMI - by 2025)

€ 922.6 million

#### WACC

(average for 4-yr period, pre-tax nominal)

7.52%

Savings for Public Service Obligation reductions expected to reach €0.9 bn by 2026

#### **Consultation for WACC & AR started**

End May '21

**Beginning July** 

**Beginning** October

end Novemberearly December

est. **H1' 22** 

**RAE Consultation for New Methodology** 

**RAE Decision for New Methodology** 

IPTO's Proposal for RP 2022-25

Regulator's Consultation for IPTO's Proposal for RP 2022-25

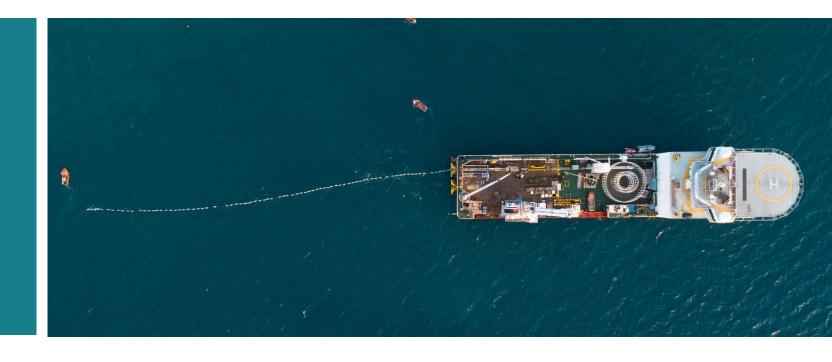
**Regulator's Final Resolution** 





### 2.

### Investment Program Summary



### **Key milestones in 2021**



 The second interconnection of Crete with the mainland is in progress. According to the current timetable, commissioning of the project is expected in 2024.



- The technically demanding interconnection between Crete and the Peloponnese was completed in May and fully operational on July 3, 2021.
- It has already brought tangible benefits to Crete, as it reduced power generation from conventional units and shielded the island's energy security during tourist season



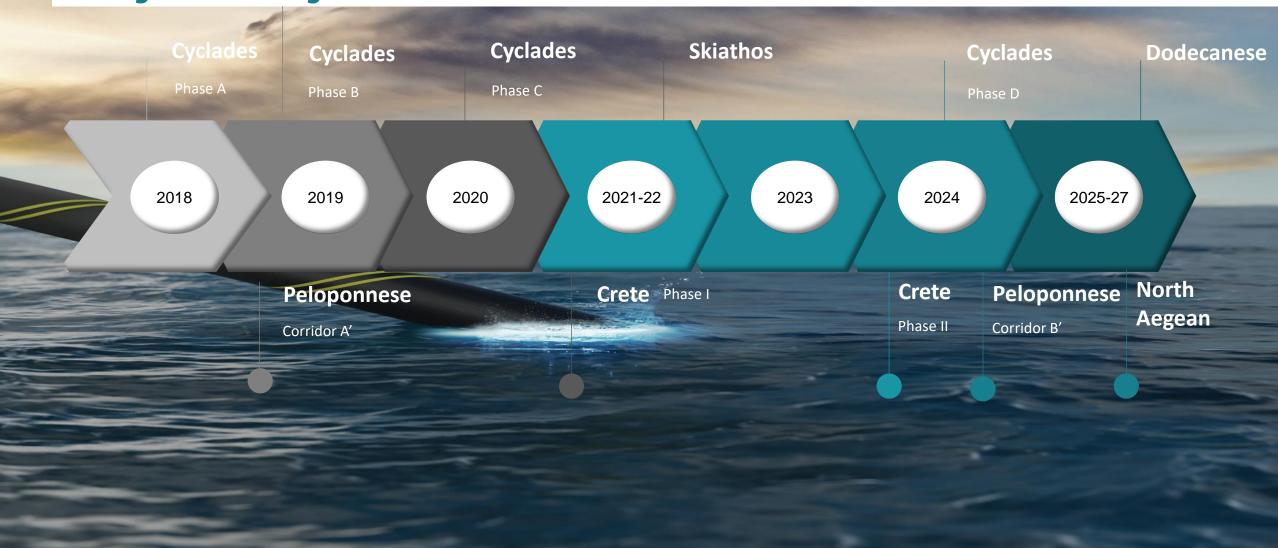
- Phase IV has been included in the National Recovery and Resilience Plan and will receive funding of EUR 165 million.
- In December, the contracts are expected to be signed with the contractors of the Santorini-Naxos.
- Afterwards the tenders for the rest of the Folegandros, Milos and Serifos)



- Announced tender for the second interconnection between Greece and Bulgaria with an overhead Transmission Line of 400kV. Expected H2'2022.
- Signed a MoU with the Italian TSO Terna for a second interconnection between Greece and Italy, which is currently under research stage.



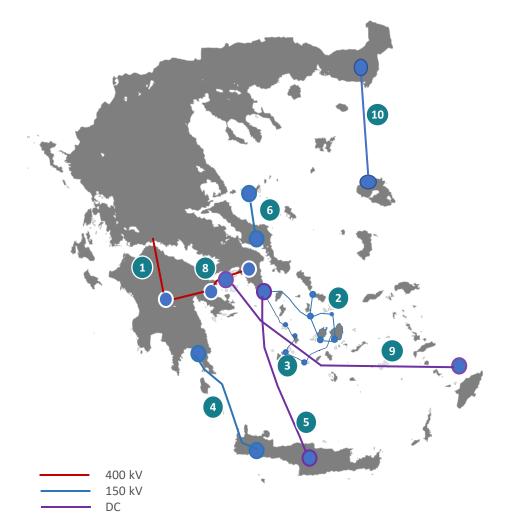
### Major Projects 2021-2030





### Network Development Plan 2022-2031

#### **Major Project Locations**



ID Project description	Expected commissioning	Total project cost M€
Corridor A' 400 kV to Peloponnese (OHL Megalopoli – Patras – Acheloos)	2021	117
<ul><li>Cycladic Islands Interconnection (Phases B and C)</li></ul>	completed	192
3 Cycladic Islands Interconnection Phase D	2024	383
4 Crete Interconnection (Phase A)	completed	376
5 Crete Interconnection (Phase B) Ariadne Interconnection	2024	1040
6 Skiathos Island Interconnection	2022	56
High Voltage Substations & related projects (Koumoundourou, Patra, Rouf)	2024-2028	224
Corridor B' 400 kV to Peloponnese (OHL Megalopoli – Korinthos – Koumoundouros)	2024	99
9 Dodecanese Interconnection	2028	1451
North Aegean Interconnection	2029	863
Total Capex		4.801



#### Crete – Attica Interconnection





The company Ariadne Interconnection SPSA, a currently 100% subsidiary of IPTO, has been established as a SPV (Special Purpose Vehicle – SPV) in order to finance and construct the project of Crete – Attica Interconnection

The **Attica-Crete interconnection** is a 2X500MW capacity DC link consisting of two 328km submarine cables, additional underground and overhead lines

The purpose of the project is to improve the security of supply of Crete's electricity system

**Commissioning: 2023 Estimated budget:** c. €1b

- The project is considered **Project of Major Importance (PMI)**, so a Premium rate of return can be approved by the regulator (RAE), on top of the normal rate of return. The percentage of the **premium return** can be from **1%-2.5%** and is provided from the electrification of the project up until the **12**th year from the scheduled year of electrification
- The main benefits of the project are the elimination of Public Service Obligation (PSOs) of more than € 400mn/year, the reduction of the energy cost and environmental benefits

Source: ADMIE (IPTO



3.

### Financial Overview



### **IPTO GROUP 9M'21 Highlights**

**TOTAL REVENUES** 

€213.9m

9M'20 €210.3m (+1.7%)

- ✓ Slight increase by 1.4% on rent; the amount due will be recovered in 2023
- ✓ Revenues from contracts amounted to EUR 2.1 million
- ✓ Decrease by 1.2 EUR million of received customer contributions related to high number of RES connections to the Transmission System.

**EBITDA** 

€146.5 m

9M'20 €149.2 m (-1.8%)

- ✓ Positive affected by one-off non recurring items
- ✓ Strong profitability margins
- ✓ Sufficient liquidity and high Interest coverage ratio (>10 times)

**Net PROFIT** 

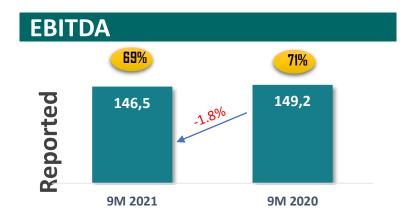
€58.6m

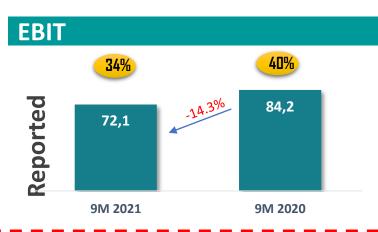
9M'20 €59.4m (-1.4%)

 The positive effect of EUR 8.8 million from the application of the new tax rate for the Group and IPTO S.A.

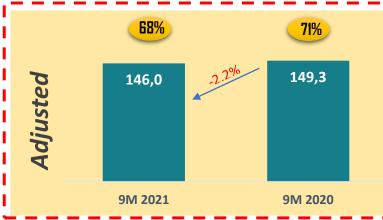


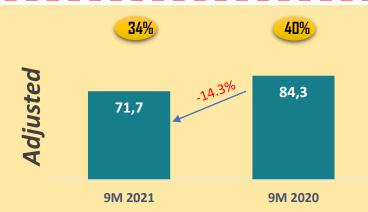
### **Profitability**

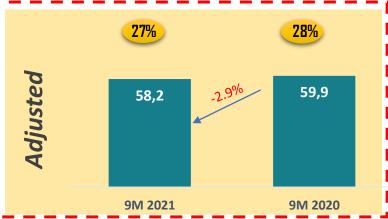












Numbers adjusted following these one-off items:

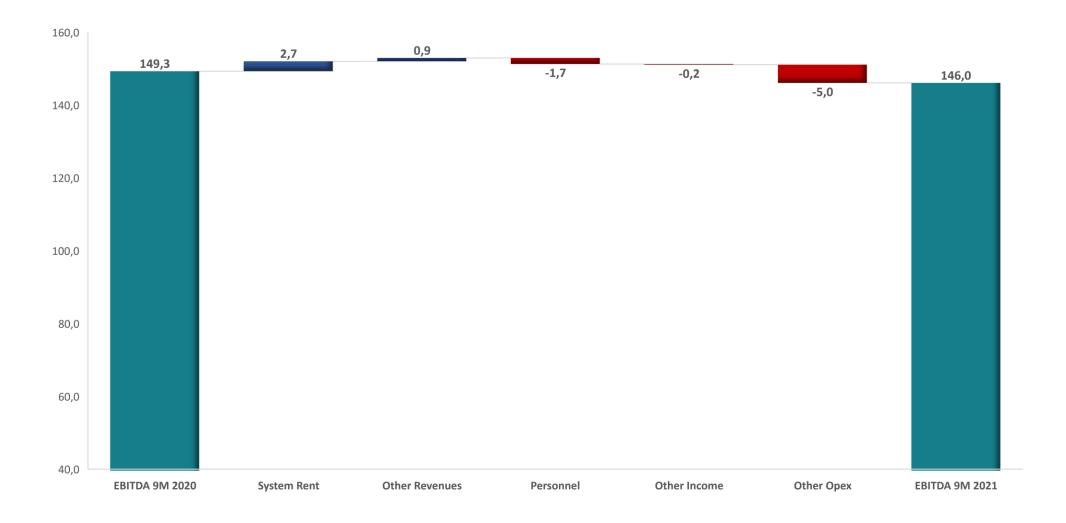
- Release of provision for the reduction of reduced electricity given to employees and retirees of the Company and provisions for compensation of staff totaling EUR 0.5 million
- Release of provision for risks and expenses EUR 2 million against a relevant release of EUR 0,2 million in 2020

Adjusted EBIT came in at EUR 71.7 million, lower by 14.3% y-o-y, excluding non recurring items.

Positive effect of EUR 8.8 million from the application of the new reduced tax rate for the Group and IPTO S.A.



### **EBITDA Bridge**





Amounts in €'m

#### Cash Flow & Net Debt

#### **Key figures**

Net Debt

€ 656.5 million

Coverage ratio

10x Interest coverage ratio\*\*

\*adj. EBITDA FY 2020

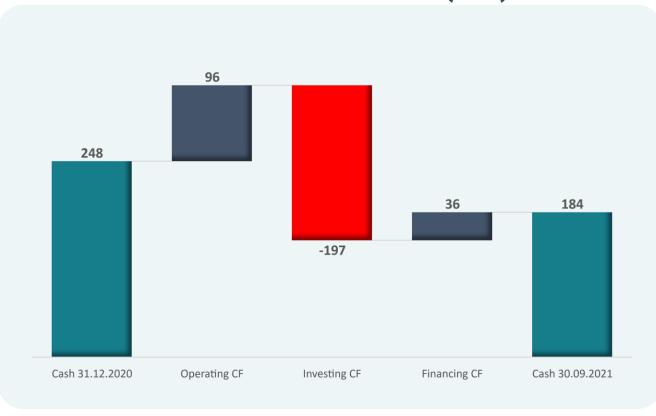
Leverage

3.2x Net Debt/adj. EBITDA\*

Leverage(2)

0.47x Net Debt/Equity

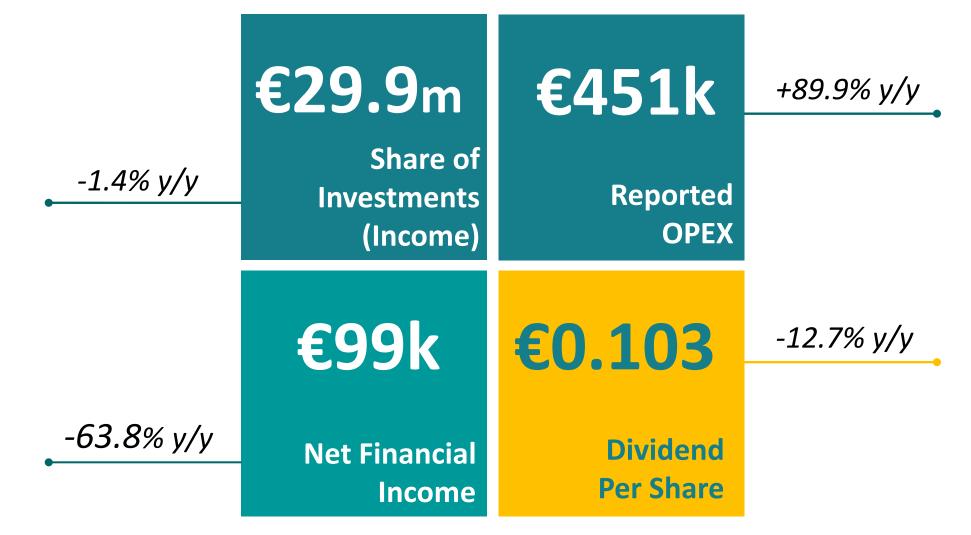
#### **Cash Flow evolution (€m)**





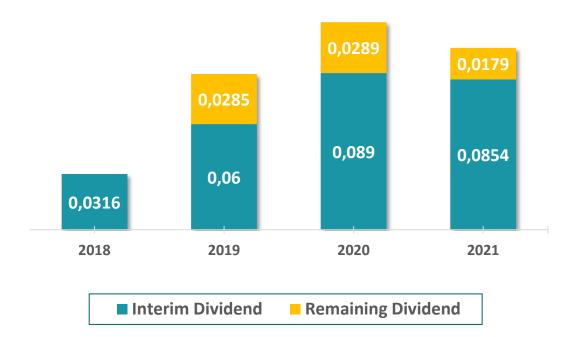
<sup>\*\*</sup>EBIT/Interest Expense

### **ADMIE HOLDING 9M'21 Highlights**





### **Dividend Policy**

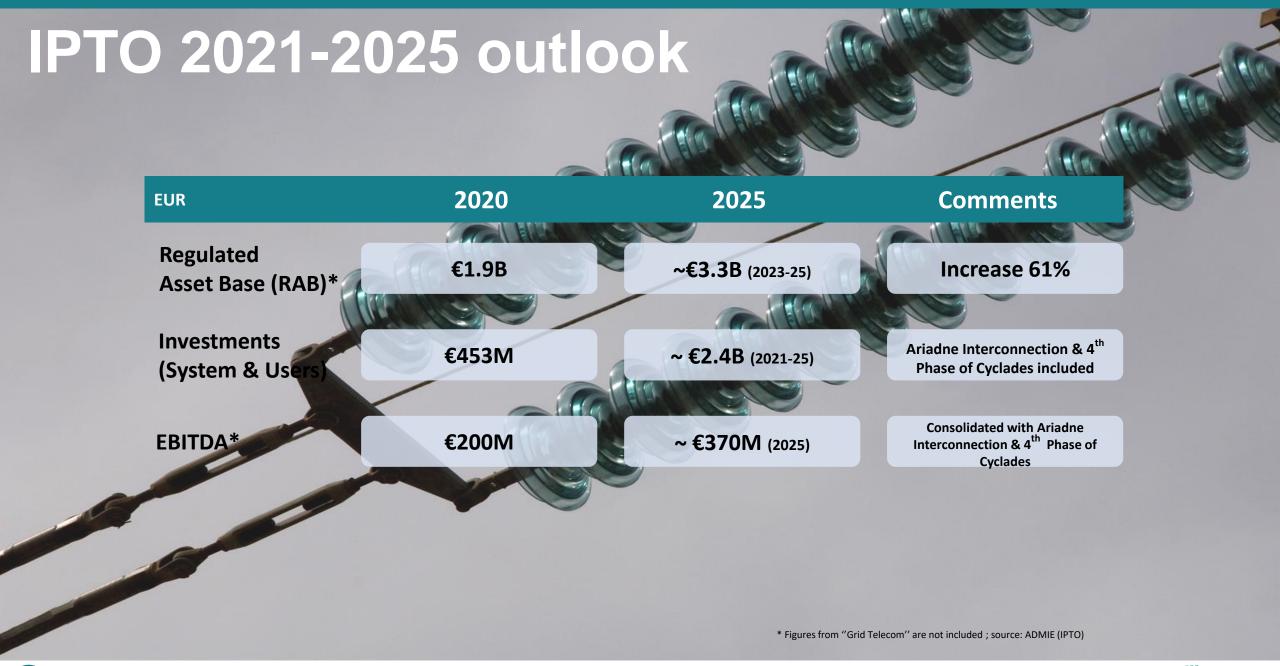


	2019	2020	2021
Dividend per share	0,09	0,12	0,103
Dividend Yield (%) *	4%	5%	3,9%

- ✓ Bound to distribute based on a minimum payout ratio of 50% (IPTO SA) | DENIC
- ✓ ADMIE Holding SA is committed to distribute the bulk of dividend collected by IPTO SA

<sup>✓</sup> Average dividend yield since listing ~%

<sup>\*</sup>Calculations based on year-end stock prices .

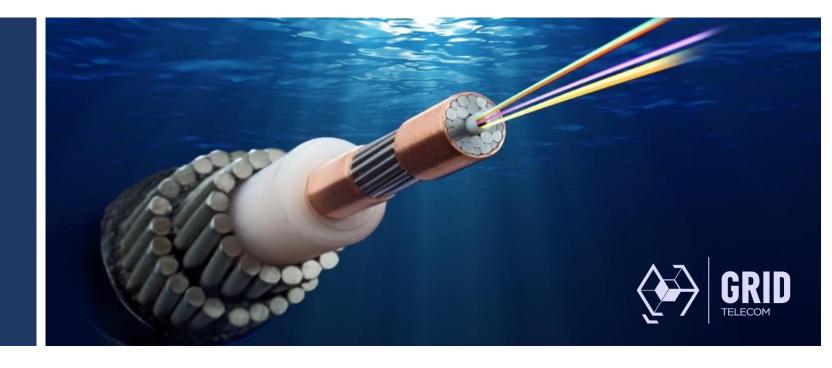






4.

### GRID Telecom



#### **Network footprint**

- Fiber optic network (terrestrial and submarine) exceeds
   4.000km throughout Greece
- Reaching already all neighborhood countries
- The expansion of the fiber optic network will exceed 6.000Km throughout Greece in the next years
- Orid Telecom's own network is planned to expand in the Balkans







#### Services



- ✓ Fiber optic network (terrestrial and submarine) exceeds 4000km throughout Greece
- Reaching already all neighborhood countries
- ✓ The expansion of the fiber optic network will exceed 6000Km throughout Greece in the next 5 years
- ✓ Grid Telecom's own network is planned to expand in the Balkans

IPTO is quickly developing its land and submarine network ensuring alternative routing thus providing protected circuits and the highest levels of availability to Carriers.



Provision of Dark Fiber through IPTO's terrestrial and submarine network infrastructure combining Grid-Telecom's terrestrial network part



Grid Telecom provides collocation services within protected areas in IPTO's substation sites.



In the near future Grid Telecom will be proving collocation services to mobile telecom operators on IPTO's Powers Pylons which are set up all over Greece.

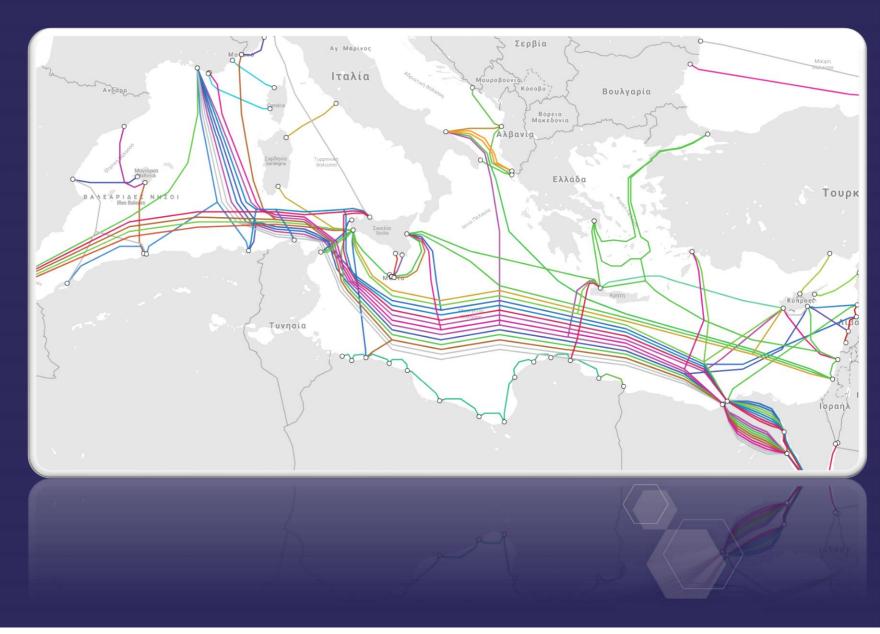
Partnering with Data Centers' specialist(s) to fully capitalize IPTO's assets turning them into regional in-country Data Centers.





### Our Vision

- ✓ Submarine cables transfer99% of internet traffic.
- ✓ Many local operators (East Europe) seek routes to major gateways (Athens and Chania)
- ✓ Balkans are currently underserved and by-passed by the main fiber corridors connecting Asia, Africa and Western Europe
- ✓ IPTO could provide access to main Internet Hubs in cooperation with local TSOs.





#### Winners of UFBB tender

• Greece's UltraFast BroadBand (UFBB) Infrastructure Scheme

1. Hellenic Telecommunications Organization – LOTs 1, 3, 7

2. Joint Venture "GRID Telecom & TERNA Energy – LOTs 2,

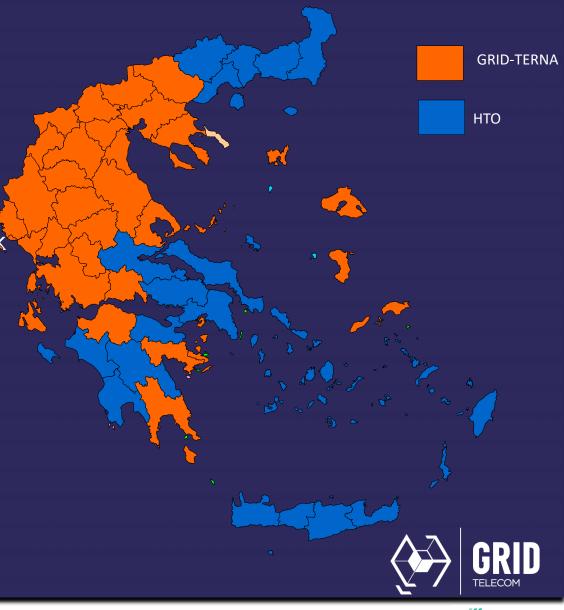
4, 5, 6

• 4.220 OCCA (Outdoor Cabinet Coverage Area) (435.222 connections)

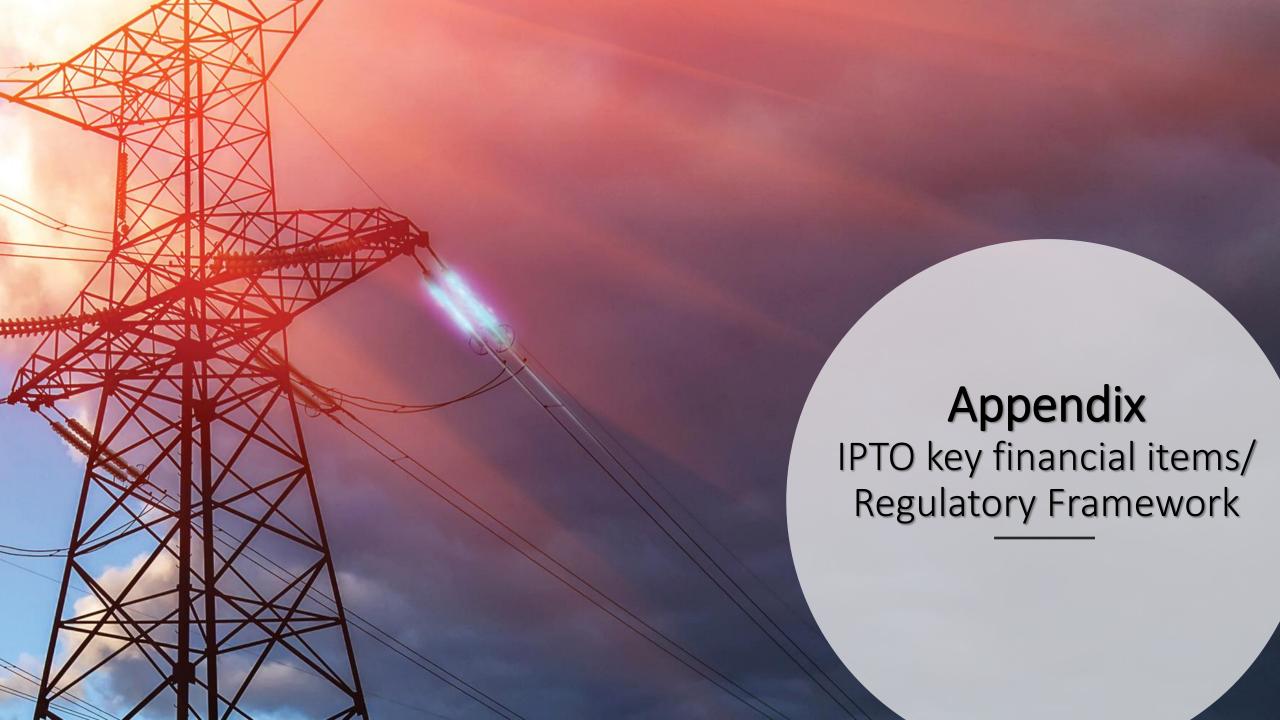
1.022 RSCAs (Remote Settlement Coverage Area) (~ 44k connections)

 Joint Venture's LOTs will require an estimated investment of €350 M with public contribution up to 45%

- Offered Services:
  - Type A: 100 Mbps upgradable to 1Gbps in 3 days (FTTH)
  - Type B: 100 Mbps (FTTC Vectoring)
- Construction duration: 3 yrs. & Operations duration: 23 yrs.







#### **IPTO** selected items

Dalaman aharat	Group			
Balance sheet	30.09.2021	31.12.2020		
Non-current assets	2,656.2	2,489.6		
Current assets	527.2	592.5		
Of which: Cash & equiv.	183.8	248.5		
Total Assets	3,183.4	3,082.0		
Equity	1,389.3	1,365.2		
Interest-bearing liabilities	656.5	507.0		
Non-current liabilities	1,383.1	1,302.0		
Current liabilities	410.9	414.8		
Equity & Liabilities	3,183.4	3,082.0		

	Group			
Profit & Loss Statement	30.09.2021	30.09.2020	Chg % yoy	
System rent	203.0	200.3	1.4%	
Total revenues	213.9	210.3	1.7%	
Reversals/(Provisions & Impairments)	-2.0	-0.2	792.7%	
EBITDA	146.5	149.2	-1.8%	
EBITDA margin	68.3%	71.0%		
Operating Income	72.1	84.2	-14.3%	
Financial Income	5.45	5.41	0.7%	
Financial Expenses	-12.5	-9.8	26.8%	
Net Financial Expenses	-7.01	-4.41		
Net profit/(loss)	58.6	59.4	-1.4%	
Cash flows	30.09.2021	30.09.2020	Chg % yoy	
CF from Operations before WC	147.3	150.3	-2.0%	
CF from Operations after WC*	96.3	105.5	-8.7%	
CF from Investments	-196.6	-175.4	12.1%	
CF from Financing	35.6	-12.2	-391.8%	
Change in cash	-64.7	-82.2		



### **ADMIE Holding selected items**

Balance sheet	30.09.2021	31.12.2020	
Non-current assets	734.9	722.6	
Current assets	4.8	7.2	
of which: Cash & equiv.	4.7	7.7	
Total Assets	739.7	729.8	
Equity	739.1	729.7	
Current liabilities	0.5	0.1	
Total Equity & Liabilities	739.7	729.8	

P&L		30.09.2021	30.09.2020
	Income from Affiliate	29.9	30.3
	EBITDA	29.4	30.1
	Operating Income	29.4	30.1
	Net profit	29.5	30.3
Cash flows		30.09.2021	30.09.2020
Cash flows	CF from Operations	0.1	<b>30.09.2020</b> 0.7
Cash flows	CF from Operations  CF from Investing		
Cash flows	·	0.1	0.7

source: ADMIE (IPTO)

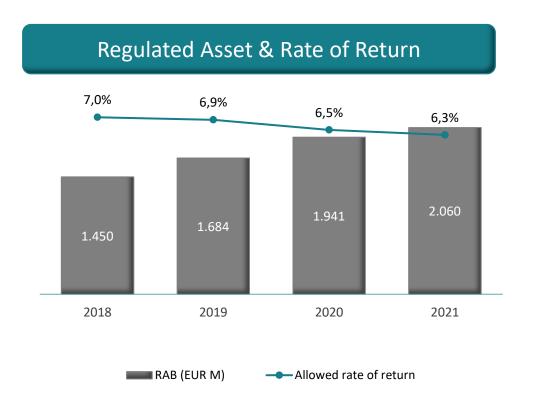


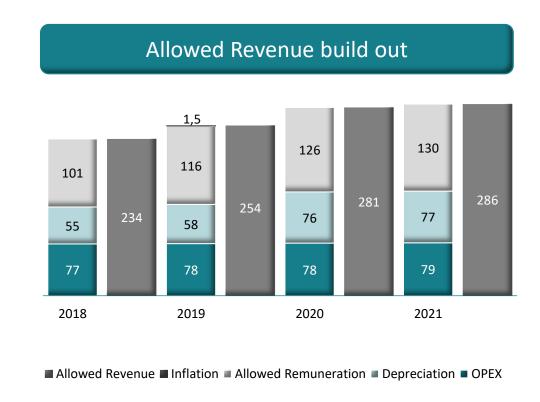
### Regulatory overview

Year	2018	2019	2020	2021
Average RAB	1,449.8	1,684.5	1,941.3	2,059.8
X				
WACC (real, pre-tax)	7.0%	6.9%	6.5%	6.3%
=				
Allowed remuneration	101.5	116.2	126.2	129.8
+ Authorized OPEX	77.2	77.9	70 F	79.1
+	77.3	77.9	78.5	79.1
Regulatory Depreciation	55.2	58.3	76.4	77.1
Allowed revenue	234.0	252.4	281.0	285.9
Inflation (RAE 100/2019)		0,6%		
Adjusted allowed revenue	*	253.9		



### Regulatory period 2018 – 2021





Allowed Revenue per year detailed across regulatory period; Required Revenue mandated annually



#### **WACC** calculation

WACC components	2018	2019	2020	2021
Risk-free	0.7%	0.7%	0.7%	0.7%
Market risk	5.0%	5.0%	5.0%	5.0%
Equity beta	0.68	0.73	0.67	0.72
Country risk	2.3%	2.0%	1.8%	1.5%
Cost of equity post-tax	6.4%	6.4%	5.9%	5.8%
Tax rate	29.0%	29.0%	29.0%	29.0%
Cost of equity pre-tax	9.0%	9.0%	8.3%	8.2%
Cost of debt pre-tax	5.3%	5.6%	5.0%	5.1%
Gearing	36.3%	41.3%	36.3%	40.3%
WACC nominal	7.64%	7.6%	7.1%	6.95%
Inflation	0.6%	0.6%	0.6%	0.6%
WACC real, pre-tax	7.0%	6.9%	6.5%	6.3%



#### Required Revenue calculation

#### **Current Regulatory Framework**

**Regulatory Period** 

4-Year period for 2018-2021

#### Required Revenue (RR)

Amount recovered through System usage charges

$$RR = AR \pm K \pm \Pi_1 \pm \Pi_2 - \Pi_3 \pm \Pi_4 - \Pi_5$$

± K : cost of investments financed by 3rd parties

 $\pm \Pi_1$  : settlement due to under-/over-recovery of RR

 $\pm \Pi_2$  : settlement due to deviations from AR

 $-\Pi_3$  : amount from auction of Interconnection Capacity Rights

 $\pm~\Pi_4$  : amount from Inter-TSO Compensation Mechanism

 $-\Pi_5$ : amount from TSO income from non-regulated activities

#### **New Regulatory Framework**

**Regulatory Period** 4-Year period for 2022-2025

#### Required Revenue (RR)

Amount recovered through System usage charges

### $RR = AR \pm K \pm P1 \pm P2 - P3 \pm P4 \pm P5 \pm P6 \pm P7$ $\pm INF \pm EFF - LD - UP \pm INC$

± K : cost of investments financed by 3rd parties

± P1 : settlement due to under-/over-recovery of RR

± P2 : settlement due to deviations from AR

- P3 : amount from auction of Interconnection Capacity Rights

± P4 : amount from Inter-TSO Compensation Mechanism

± P5 : settlement due to deviations from non-controlling operating costs

± P6 : settlement due to deviations from non-regulated activities

± P7 : settlement due to deviations from tax revision in regulatory period

± INF : settlement due to inflation deviations

± EFF : amount from incentive mechanism

- LD : amount from disincentive on non - timely project commissioning

- UP : amount from net profits on non- regulated activities

± INC : amount from incentive mechanism on efficient System operations

#### IPTO – Regulated Revenue analysis

	2020	2019	Difference	2021	Q1
Items comprising AR in RAE 235/2018					
OPEX	78.461	77.862	599	79.066	19.767
Depreciation	76.370	58.335	18.035	77.063	19.266
Total expenses	154.831	136.197	18.634	156.129	39.032
RAB	1.941.335	1.684.495	256.840	2.059.771	
WACC	6,50%	6,90%		6,30%	
RAB*WACC	126.187	116.230	9.957	129.766	
AR - Allowed revenue	281.018	252.427	28.591	285.895	71.474
Plus: Items not budgeted in RAE 235/2018					
Ariadne	2.408		2.408	2.763	690,8
RSC	1.090		1.090	2.910	727,4
AR revised	284.517	252.427	32.090		72.892
Inflation	0,00%	0,60%	32.030	231,307	72.032
AR inflated	284.517	253.942	30 575	291.567	72.892
Alt Illiated	204.317	233,342	30.373	231,307	721032
Adjustments for (RAE 100/2019 & RAE 1650/2020):					
(П1) Amount cleared due to (over)/under recovery of revenue	2.519	2.024	495	143	
(П2) Amount cleared due to over/(under) investment	779	-17.318	18.097	-6.141	
(П5) Revenue from non regulated activities	-11.501	-9.366	-2.135	-9.699	
AR adjusted	276.314	229.281	47.033	275.870	68.967
Revenues recovered from other sources (RAE 100/2019 & RAE 1650/2020):					
(K) Cost of HETS projects implemented by means of third party funding	-10.000	7.164	-17.164	0	0
(ПЗ) Revenue from Interconnection rights	-68.082	-37.910	-30.173	-66.180	-16545
(П4) Revenue from participating in the Inter-Transmission Compensation mechanism (ITC)	238	454	-216	1.906	476,6
RR - Required revenue	198.469	198.989	-520	211.597	52.899
Actual	105 715	100.046	2.422		40.544
TUoS	195.715	198.846	-3.132		48.514
Other sources					
(K) Cost of HETS projects implemented by means of third party funding	10.000	-7.164	17.164		0
(ПЗ) Revenue from Interconnection rights	68.082	37.910	30.173		16545
(П4) Revenue from participating in the Inter-Transmission Compensation mechanism (ITC)	-238	-454	216		-477
Concession Agreement Expenses				_	
Revenue from Transmission System Rent	273.560	229.138	44.421		64.582

#### Comments:

- For 2020, Allowed Revenue (AR) was budgeted with an increase of €28.6m, mainly as a result of the estimated expansion of the Regulated Asset Base (RAB) of IPTO.
- Allowed Revenue (AR updated) of 2020 was increased by €3.5m, to include the operating expenses of Ariadne and the RSC.
- Π2 increased by €18.1m compared to 2019, which reflects the over-investment of 2018 in relation to the underinvestment of 2017 (negative Π2 in 2019).
- Interconnection Rights increased, allowing the use of a higher amount of the reserve (+€30.2m), which contributed to maintain the Required Revenue at levels close to 2019.
- The slight decrease in consumption, as a result of the pandemic crisis, led to reduced System Usage Charges by €3.1m in 2020 compared to 2019.



**Islands Interconnection** 

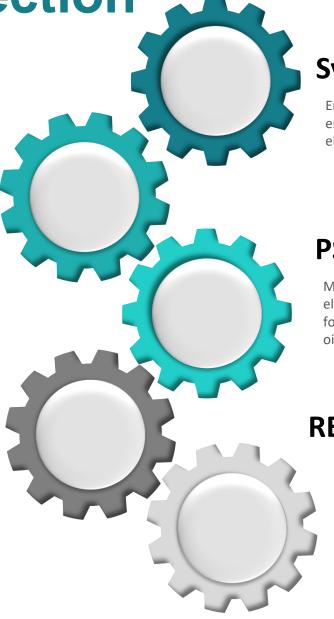
Main Objectives

#### **Cost Reduction**

- Drastic reduction of electricity generation cost in the islands
- Substitution of oil units with RES plants and imports from the mainland

#### **Environmental benefits**

- Most of the local old oil-fired units are located near residential and tourist areas
- They will be set in "cold reserve" status after the interconnection



#### System stability

Ensuring a safe supply of energy for the islands electricity system

#### **PSOs elimination**

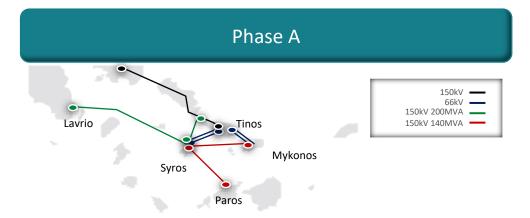
More than €300m/year due to the electricity supply of Crete and €50m/year for the Cycladic islands, from high cost oil-fired unit

#### **RES Enhancement**

- The majority of the energy needs will be met by RES, while the rest will be imported from the mainland
- Reduction of energy dependence on imported fuels
- The achievement of the major 2020 energy goals of the country, in terms of enhancing RES penetration and reducing CO<sub>2</sub> emissions



### **Cycladic Interconnection**



Radial Interconnection of Syros island with the mainland (Lavrio), Paros, Mykonos and Tinos islands. 13 islands in total connected to the mainland.

Completed: May 2018 (Interconnection of Syros and Paros March 2018;

Mykonos May 2018) Budget: c. €250m

## Phase B Tinos Syros Tinos Mykonos

Naxos

Interconnection of Naxos island with Paros and Mykonos islands (close loop between Syros-Mykonos-Naxos-Paros)

Reinforcement of the existing interconnections Andros – Evia and Andros - Tinos

**Expected completion:** Project completed

Estimated budget: c. €72m

The **Hellenic Cables SA - Fulgor SA consortium** has undertaken the construction of the submarine cables connecting Naxos with Paros and Mykonos, while the **Consortium of Nari Group Corporation –** 

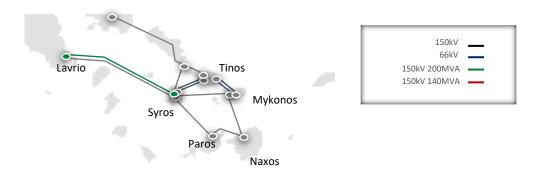
**Elektromek S.A.** was selected as the contractor for the construction of the 150 KV Substation in Naxos.

The tender for the installation of new increased capacity lines (200 MVA) at the Interconnections of Evia - Andros and Andros - Tinos, has also been completed and IPTO has signed a contract with the contractor **Prysmian** 



### **Cycladic Interconnection**

#### Phase C



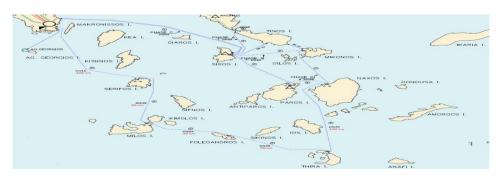
Construction of second submarine cable between Lavrio and Syros

Nexans was the successful bidder

**Expected completion:** Project completed

Estimated budget: c. €122m

#### Phase D



Expansion to the West and Southern Cycladic Islands

Interconnection of Lavrio - Serifos - Milos - Folegandros - Thira - Naxos.

**Estimated budget for Phase D:** c. €383m

**Expected completion: 2024** 

It creates an additional strong connecting route to all the Cycladic Islands, ensuring their reliable supply for many years and also permits wider development of local RES.

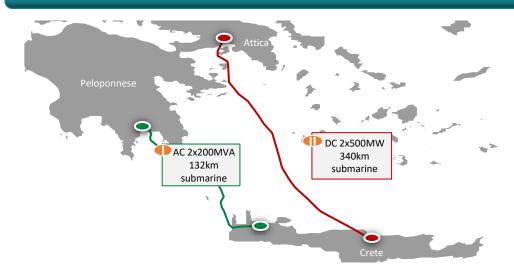


### **Crete- Peloponnese Interconnection (Phase A)**

Interconnection of Crete with the mainland through two distinct links

The project is implemented in two phases (A, B)

#### Phase A': Connection Peloponnese - Crete



Commissioning: H1 2021 Estimated budget: c. €292m Contractualisation: 11.2018

- **Fulgor**: western submarine interconnections and the underground connections in the Peloponnese

Prysmian Powerlink: eastern submarine interconnection

- **Hellenic Cables:** underground interconnections in Crete within the Peloponnese-Crete interconnection
- Terna: construction of the new Substation in the South East Peloponnese, the upgrading and extension of the existing substation in the Chania area in Crete

#### **Technical Characteristics**

- Voltage: 150 kV AC
- 2 GIS Substations
- Capacity: 2 x 200 MVA
- Cable technology: XLPE
- Maximum depth: ~980 m
- Cable length: 2 x 132 km



### **Crete- Attica Interconnection (Phase B)**



The company Ariadne Interconnection SPSA, a currently 100% subsidiary of IPTO, has been established as a (Special Purpose Vehicle – SPV) in order to finance and construct the project of Crete – Attica Interconnection

#### Phase 'B: Connection Crete - Attica



#### Similar projects in Europe:

SAPEI: Sardinia-Italy, 1000 MW, 500 kV, LCC, depth 1650 m, 420 km long

MONITA: Italy-Montenegro, 1000 MW, 500 kV, LCC, depth 1200 m, 415 km long

SKAGERRAK IV: Denmark-Norway, 700 MW, 500 kV, VSC, depth 550 m, 137 km long

NORD.LINK: Germany-Norway, 1400 MW, 525 kV, VSC, depth 230 m, 623 km long

NSL: UK-Norway, 1400 MW, 525 kV, VSC, depth 600 m, 730 km long

**Commissioning:** 2024

Estimated budget: c. €1.04b

Implementation: Ariadne Interconnection

#### **Technical Characteristics**

- VSC MMC Converters
- Voltage: ~500kV
- Bipolar Configuration
- Link Capacity: 2 x 500 MW
- Cable technology: MIND/XLPE
- Maximum depth: ~1250m
- Cable length: 2 x 340 km submarine and additional underground (at both sides) and

overhead lines (in Crete)

