



# CLUSTER PORTUGAL MINERAL RESOURCES

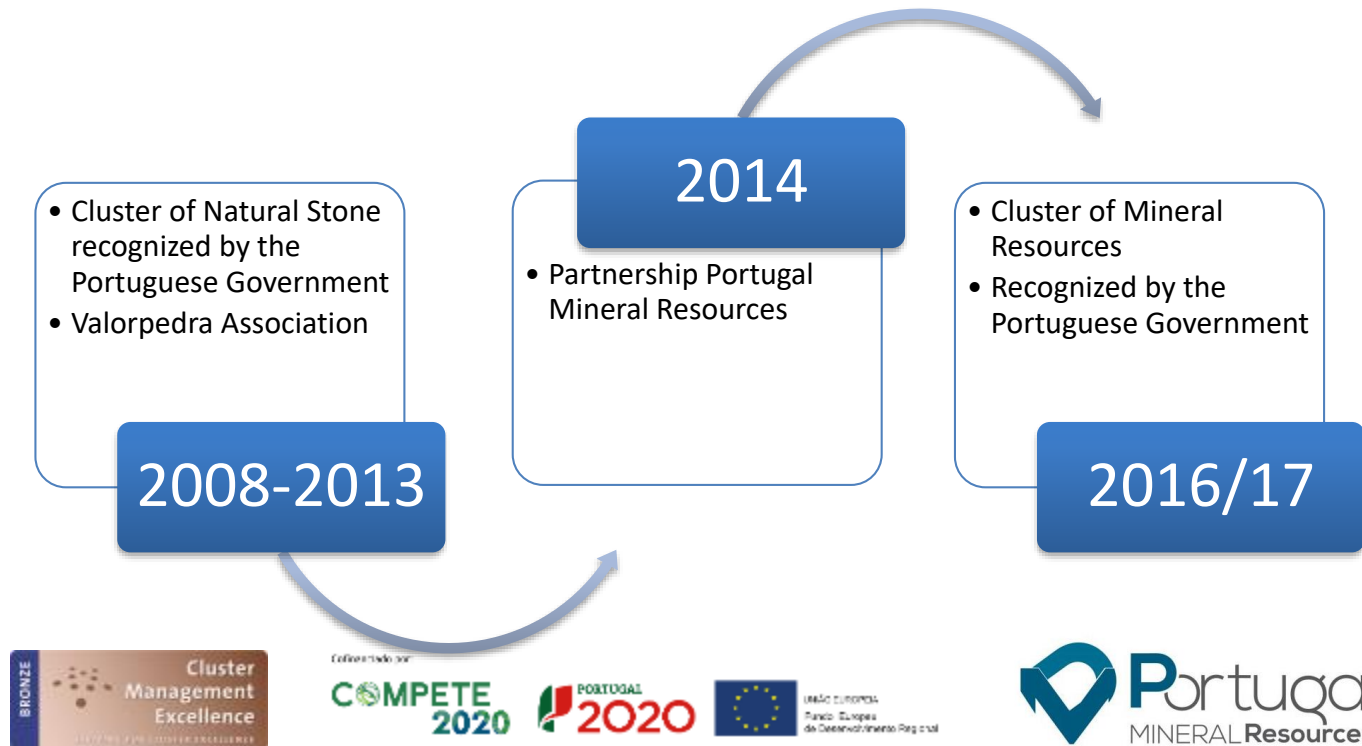
**Opportunities and risks for mining business in the Iberian Pyrite Belt, Portuguese territory**

**INTMET Clustering Conference, Sevilla  
23<sup>th</sup> January 2019**



# BACKGROUND

## Cluster of Natural Stone Partnership Portugal Mineral Resources



## RESULTS

Investment = (5 years) = 54 M€  
More than 100 projects



## CLUSTER PORTUGAL MINERAL RESOURCES

Promote knowledge and sustainable economic value for mineral resources, boosting the export capacity and the added value.

Deepening knowledge of the economic potential of resources, promoting R & D + I, improving productive investment conditions and access to markets, as well as increase skills (technical, technological, management) and stimulate inter-company and inter-institutional cooperation.



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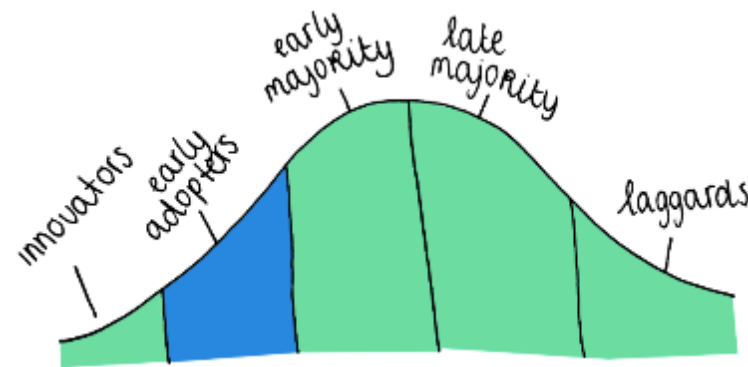
45 SMEs

2 SECTORIAL ASSOCIATIONS

10 UNIVERSITIES

2 I&D INSTITUTES

1 REGIONAL PUBLIC INSTITUTION



## ➤ Objectives - 2020

- Turnover +10%
- Gross added value +10%
- Volume of exports +25%
- Employment +1%
- R&DI +5%



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# The importance of R&I in the IPB: Portuguese examples



**TABLE I**

period	Portugal		Spain	
	Nº deposits	M. tons	Nº deposits	M. tons
1950/60	2	60	1	>50
1960/70	4	150	3	>60
1970/80	4	>300	6	150
1980/90	0	0	7	300
1990/98	1	10 (?)	1	>40 (?)
<b>total</b>	<b>11</b>	<b>&gt;520</b>	<b>19</b>	<b>&gt;600</b>

**VMS DISCOVERIES  
IN THE IPB (1950 - 1998)**

**TABLE II**

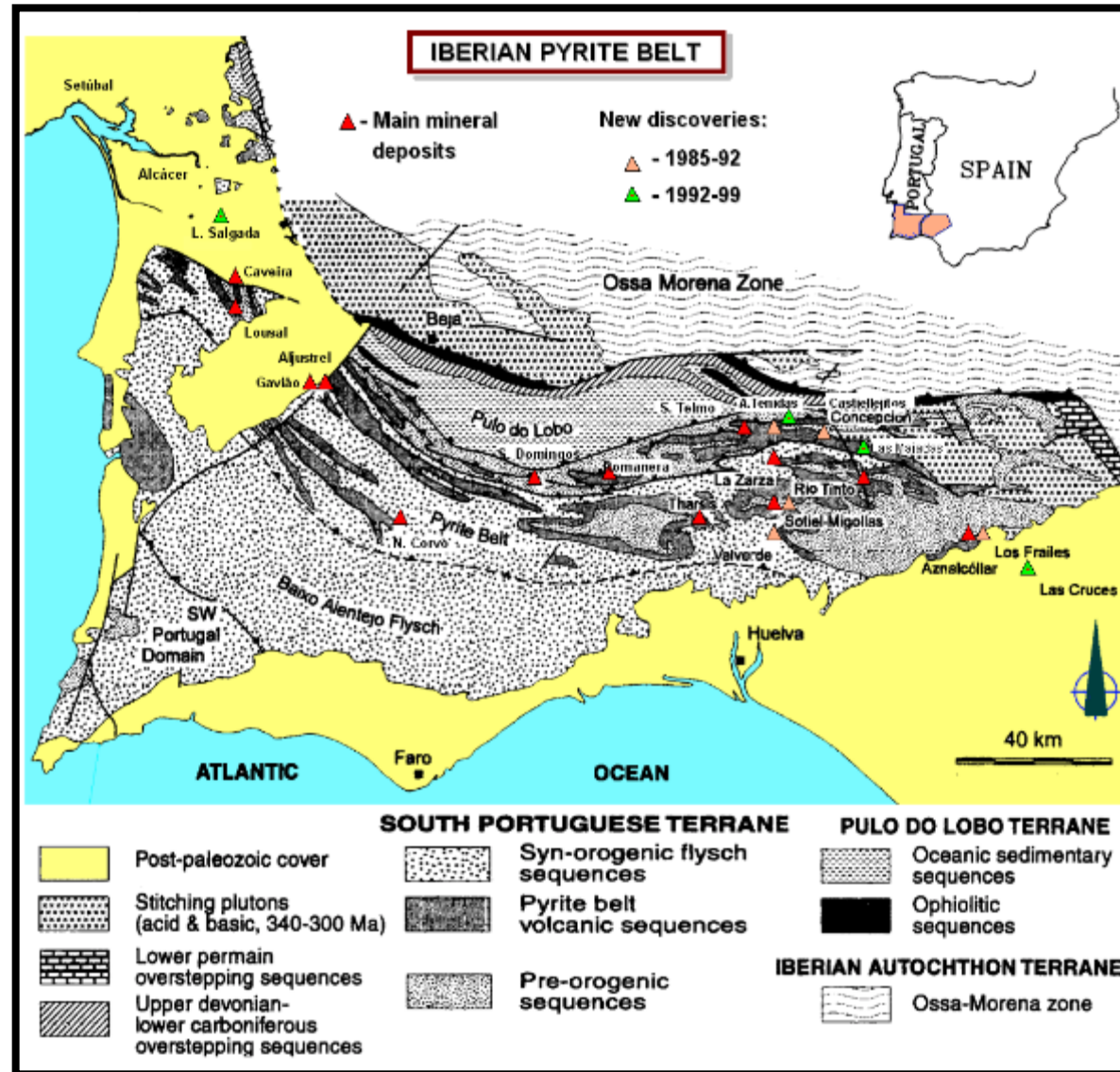
1950 - 1998	
VMS	M. TONS
30	>1120

AVERAGE: 1.2 VMS/2 YEARS

**EXPLORATION PERFORMANCE  
IN THE IPB**

IN: CARVALHO, D. (1998). EXPLORATION STRATEGIES IN THE IBERIAN PYRITE BELT: A YOUNG, MATURE, OR SENILE MINERAL EXPLORATION PROVINCE? WORLD MINING CONGRESS, LISBON MEETING (IOC).





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## THE NEVES CORVO MINE (1977 discovery)



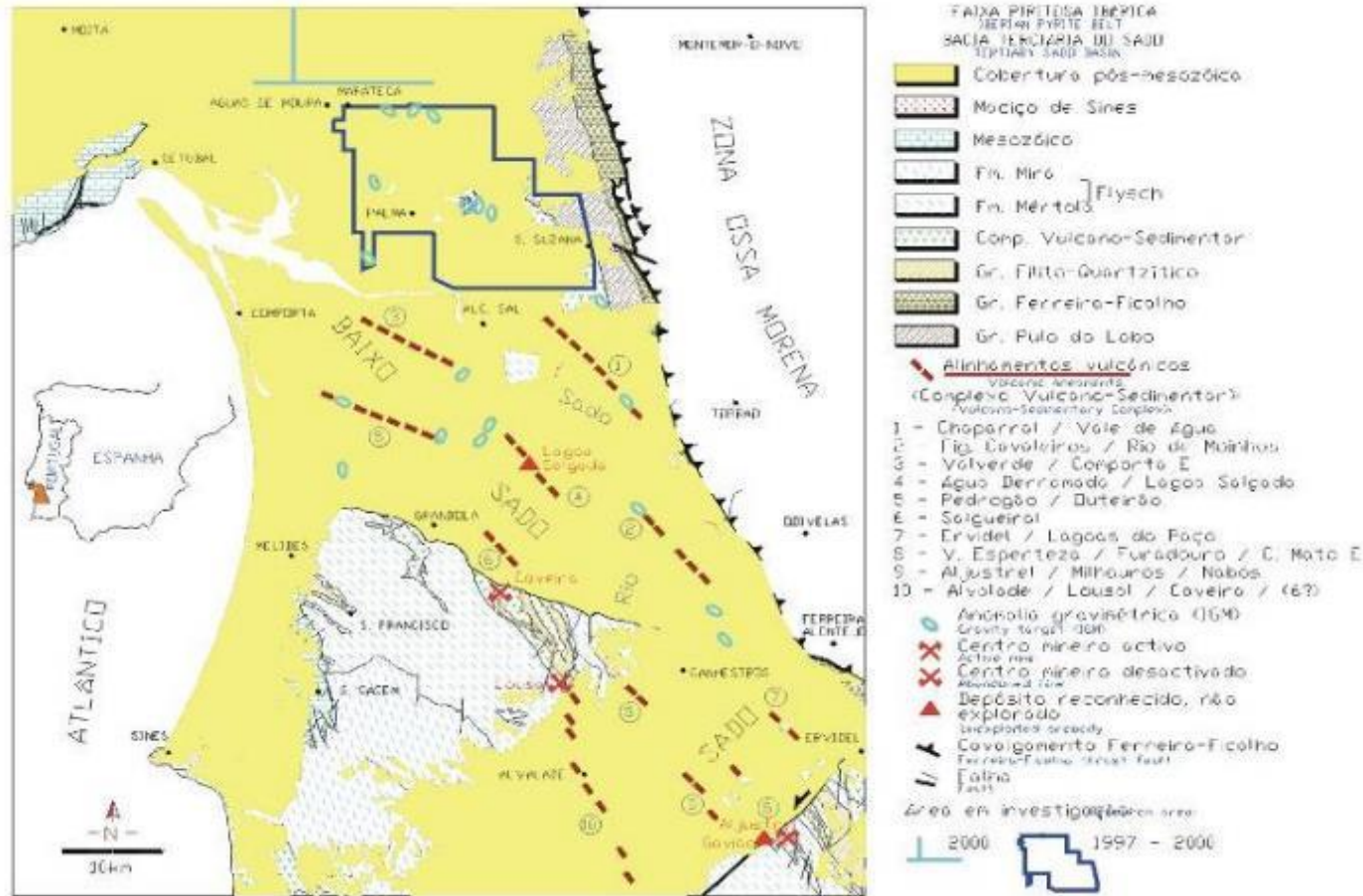
Mineral Resources (inclusive of Mineral Reserves)				
Copper	000's tonnes	Cu(%)	Zn (%)	Pb (%)
Measured	9,931	3.4	1.1	0.3
Indicated	52,046	2.2	0.8	0.3
Inferred	10,463	1.9	1.0	0.3
Zinc				
Measured	15,302	0.3	7.1	1.6
Indicated	88,214	0.4	5.8	1.2
Inferred	14,083	0.4	4.3	0.9

# THE LAGOA SALGADA DEPOSIT



First discovery of a VMS deposit under Tertiary cover (1992)

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# SWOT ANALYSIS

# STRENGTHS

- Mineral Potential
- High attractiveness for investments in the mining sector, due to the legal framework, institutional support and excellent infrastructure
- Important know how in VMS deposits exploration, mining and processing in public institutions and private companies, including data/information

# WEAKNESSES

- Insufficient/inappropriate financing of I&D activities through national and European programs
- Increasing weaknesses in the human and financial resources of Governmental institutions related to the mining sector
- Lack of incentives to companies in the sector, without any tax benefit and/or related to the reduction of energy costs, in a risky activity that needs large investments, but generating jobs and wealth

# OPPORTUNITIES/CHALLENGES

- Application of the concept of **Cluster** and **Circular Economy**, which encompasses the entire value chain (and of the respective added value) of the primary resources and recycling, also taking into account the possibility of introducing secondary resources in the process
- More and better R&I in mineral exploration and processing, including bio-techniques

# RISKS/THREATS

- Sterilization of important mineral resources due to erroneous decisions in land use planning and policies
- Environmental legislation that does not take into account the specificities of the non-renewable nature of mineral resources, which are indispensable for the social welfare and unadjusted and uninformed social contestation, which ignores environmental impact studies that allow to mitigate the effects of mining, following the best international practices, sometimes provoking incoherent and unfair political decisions





***Civilization exists by geological consent,  
subject to change without motive***

*Will Durant*

(American writer, historian and philosopher,  
Pulitzer Price in 1968)

**THANK YOU!**

**MUITO OBRIGADO!**

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