



# **HUN MINING Investment Plc.**

Investment Plan 2012-2017

July 2012

# Main Items of Investment in Rudabánya



Investment Unit	Million EUR
Baritmix Processing Facilities with 1:1 scale small volume production/pilot plant, product development and research center	50
Mineral Exploration and research, Mining Potential Assesment / with Accredited Documentation	4
Opening the First Mining Pit – all docuemntations, authorizations, technology prcurement, implementation and effect studies included	15
Procurement, Construction and Implementation of a complex mineral processing technology base don the experience obtained in BARITMX processing unit	35
Extension of mining operations; annual capacity 1.000.000. mt/ a raw material processing/mining	55
Extension of mining operations; annual capacity 2.000.000. mt/ a raw material processing/mining	55
<b>Total Investment until 2017</b>	<b>214</b>
<b>note: the figures represent fully authorized, consructed, technically installed facilities with verified trial runs</b>	
Operation costs of the productions in the first two years will require financing. Some units may reach ROI state in the mean time.	10
Some further financing may be needed to develop infrastructure in the region, like roads, rail transport, solcial facilities	4
<b>Total</b>	<b>228</b>

# HUN MINING Vision, Mission and Strategic Directions

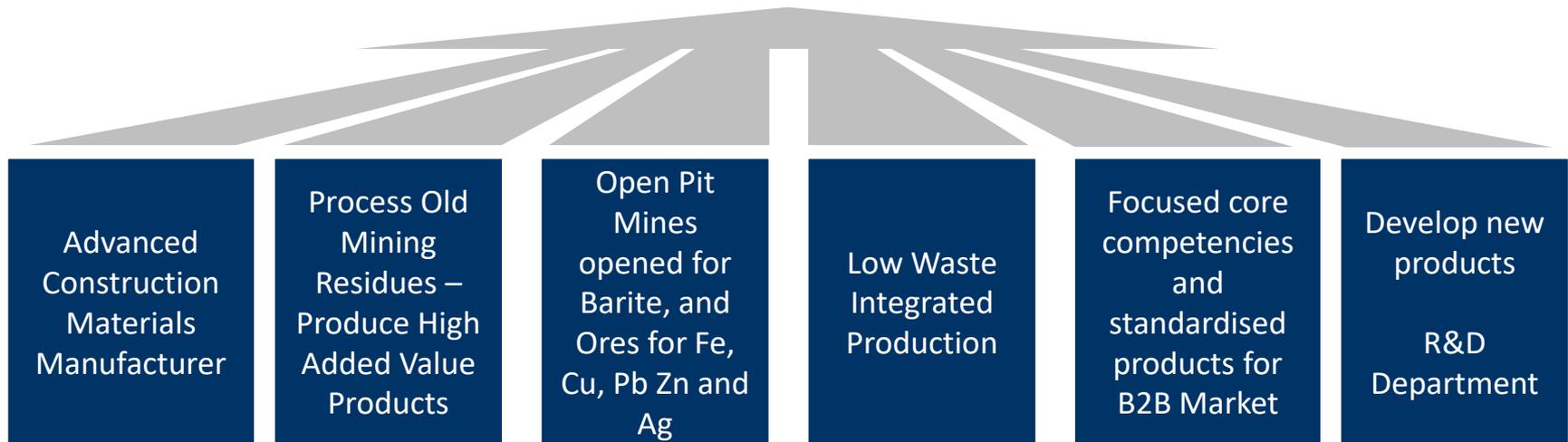


A significant European supplier of mineral based mine products, speciality processed mineral products and construction materials

Exploration and Mining of Ores and Minerals

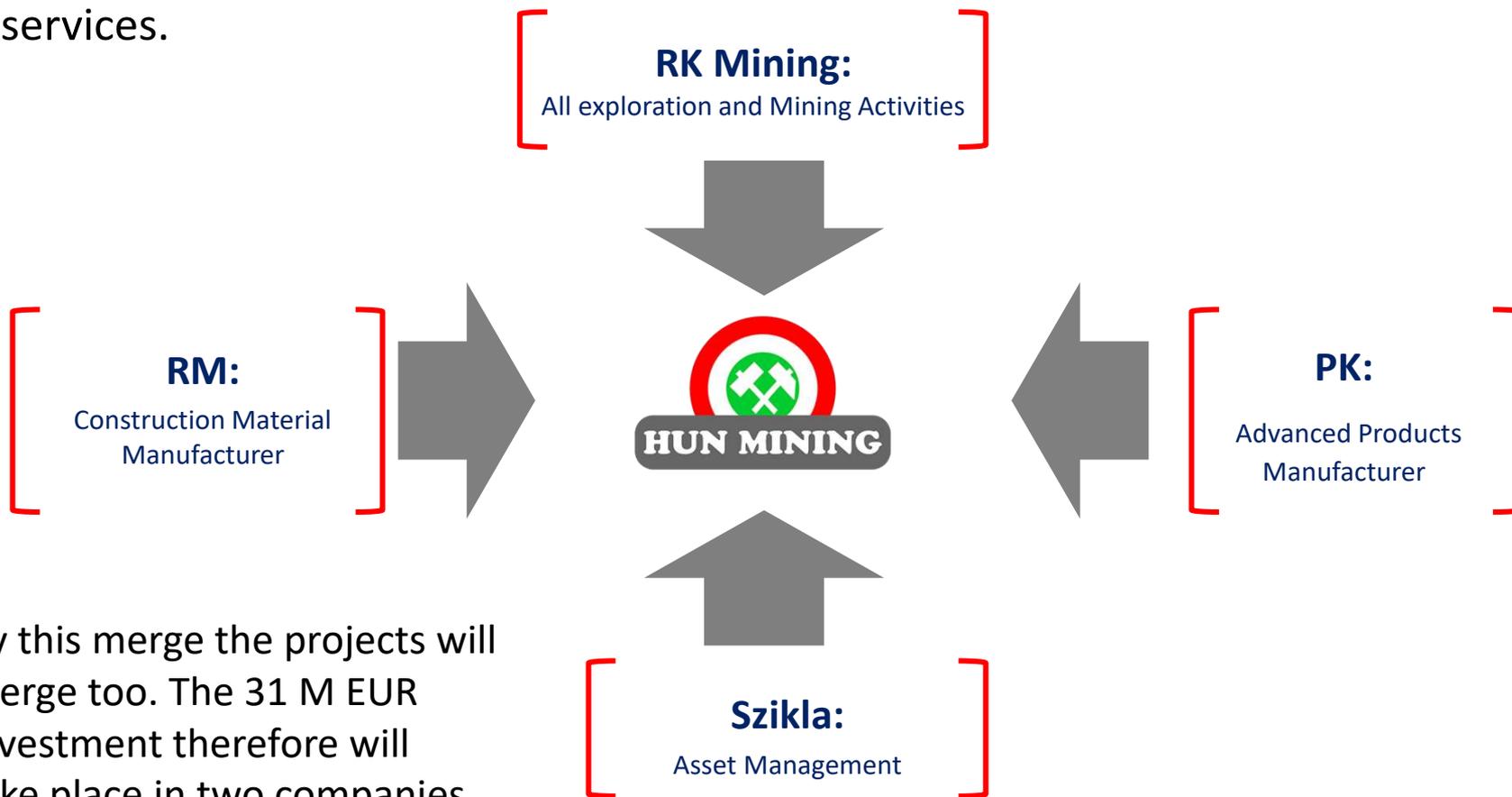
Manufacturing Mineral Based Speciality Products for Advanced Applications

Advanced Construction Materials Manufacturer and Supplier



# The affiliates of HUN Mining will be merged into a more compact structure the main production elements of which will be Rudagipsz-Mix (later HUN MINING RM) and PÓLUS KINCS (later HUN PK)

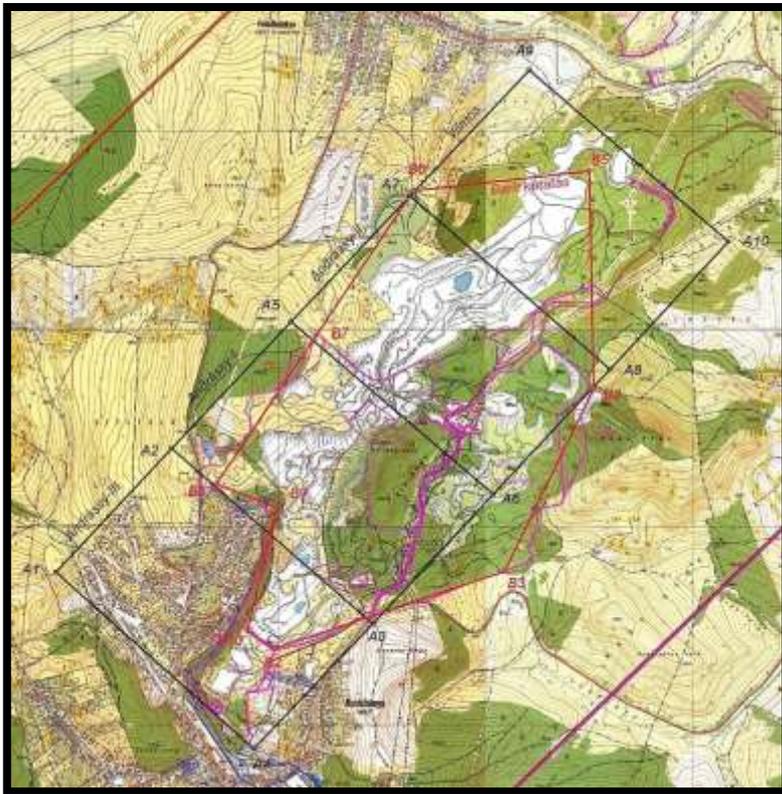
The new integrated structure emphasises functions, transparent operations, defined task distribution, profit centres based on tasks, product categories and services.



By this merge the projects will merge too. The 31 M EUR investment therefore will take place in two companies

# HUN MINING has got two main divisions

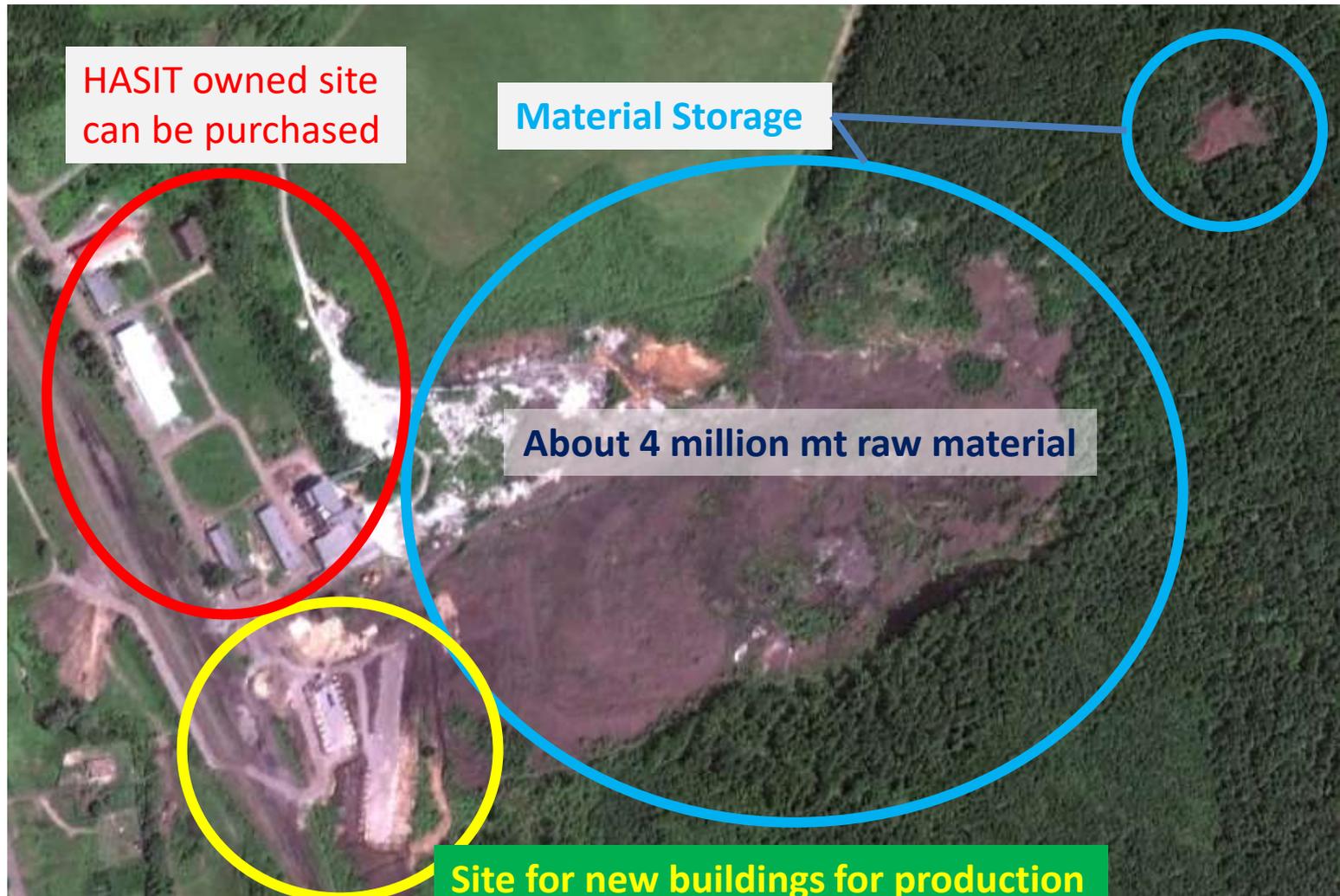
## Ore Mining Related Activities



## Mineral Processing Activities



# HUN Mining – Mineral Processing Investment



# Products to be produced by HUN MINING



## HUN MINING Mine and Mining Residues

Raw materials

Value-adding processes

Products produced

- Barite containing minerals
- Low grade siderite iron ore (av. 35%)
- Cu/Pb
- Other metals (Au, Ag, Zn)

- Ferrous-chloride for waste water treatment

- Mineral products fractionated into classified products e.g. stones, broken lumps, gravel, sand
- powdered products
- dusts

- Heavy concrete raw materials

- Heavy concrete modules

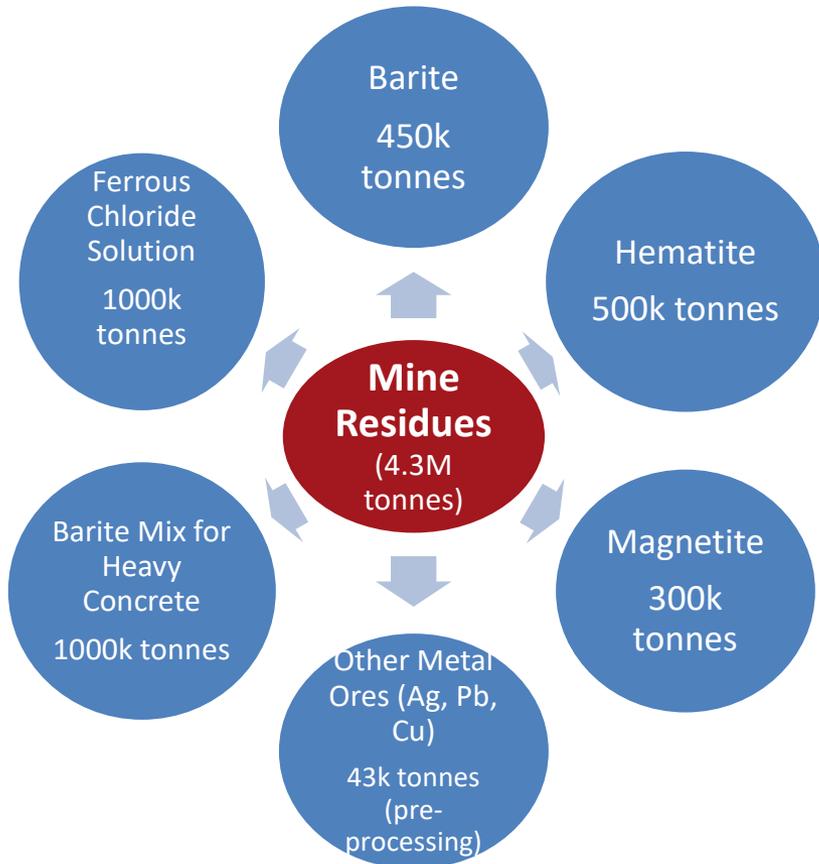
- Arsenic water treatment

- Block of mining residues as raw materials for smelters

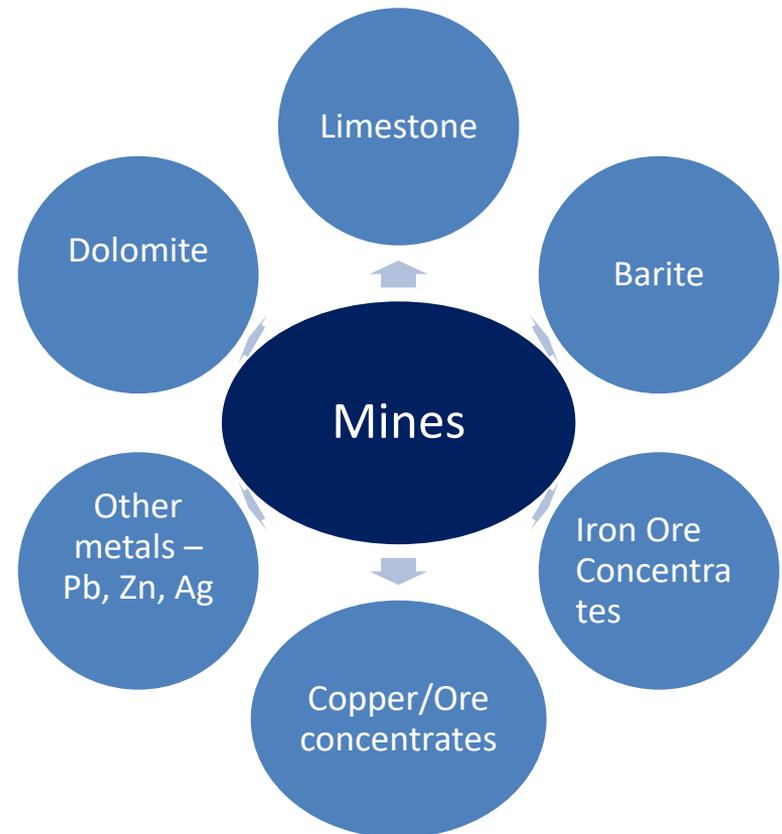
# Products to be produced by HUN MINING in its Mineral Processing Plants



**Planned products and production volume for 13-14  
years of reprocessing the residues**



**Planned products from the mines**  
(production volumes to be defined after exploration  
phase is finalised)



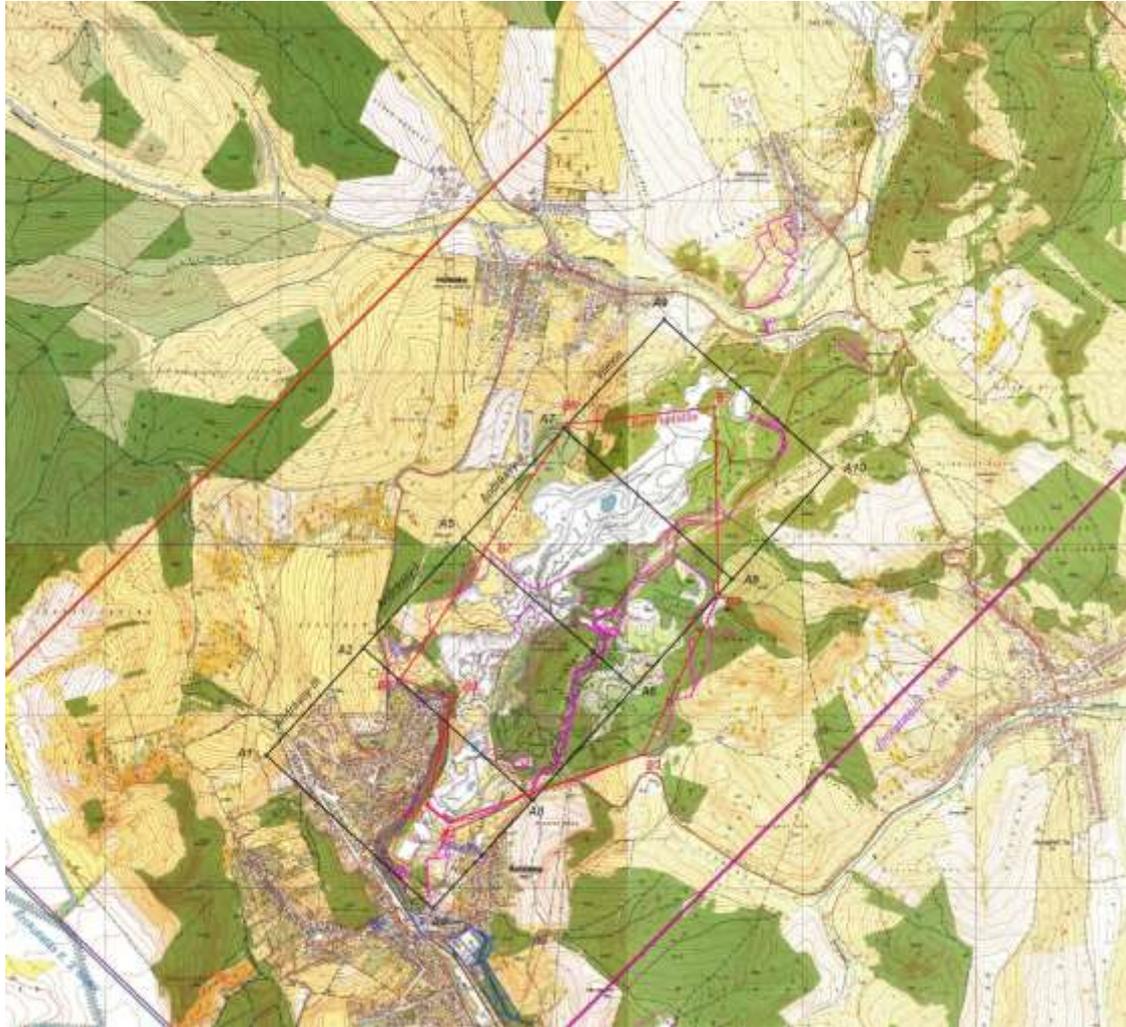
NB: The production volumes were estimated as 80% of the total known raw material in the residues. The real production will likely be higher.

# Bartimix processing facilities / Mineral Processing



Units of the facilities	Million EUR
Internal material forwarding systems:	3
Dry vibration separation units – to produce 3 main fractions with adjustable fraction settings	3
Stamping, shattering and milling plants	3
Wet separation plant, with multiple level separators and a gravity settler unit at the end of the line	2
Specialty separation units: magnetic, specific gravity, flotation units for specialty products	3
Chemical processing facilities: chemical leaching with liquid phase raw material and product storage facilities, packaging units, main reactors	16
Electrolysis Electro Winning Units for specialty products and electrode quality metal production,	4
Solid phase mineral processing facilities with mixing and blending plant, confectioning units and packaging units	4
<b>Baritmix Processing Factory with all units from all the planned product groups planned – all included</b>	<b>38</b>
Integrated quality assurance, product development facilities with research laboratories, special equipment and a pilot plant units for production tests and production of small volume products	12

# A HUN MINING – Mining Operations



RK MINING is an affiliate of HUN MINING Plc.

Ownership: 100%

RK has got two exploration licenses:

License 1.

A 30 km<sup>2</sup> site surrounding the old Abandoned mining sites and their planned mine development territories.

License 2.

Further 3 blocks of 30 km<sup>2</sup>

Surrounding the 30 km<sup>2</sup> territory of License 1.

Advantage: The licenses are valid and ongoing. They do not fall under the effect of new mining law in Hungary which binds all mining activities to concessions.

There is an approved exploration plan for the Territories of License 1.

Target: Assessment Mining Potential

As per JORC standards or similar

Investment: ca. 3 MIO EUR

Planned accomplishment: 2 years (1,5 year).

Project value with JORC certificate:

40 – 50 MIO EUR.

# Known and Predicted Mineral Reserves I.



- The mine closing documents based on archive data the following mineral reserves are cadastered and documented:
- Ankerite: 1408.4 kt, 20.41 Fe%, 1.08 Mn%
- Brown Iron Ore: 756.68 kt, 33.48 Fe%, 1.39 Mn%
- Carbonated **Sparry** Iron Ore: 12035 kt, 24.45 Fe%, 1.29 Mn%
- Silicious Sparry Iron Ore: 15114 kt, 25.07 Fe%, 1.19 Mn%, 14.42 SiO<sub>2</sub>%, 5.89 BaSO<sub>4</sub>%
- Iron Ore Total: 29314.16 kt
- Copper Ore in Chalcopiritic forms: 1285 kt, 0.57 Cu%, 17.94 Fe%, 6.89 BaSO<sub>4</sub>%
- Polymetallic Lead Ore: 206 kt, 1.51 Pb%, 0.05 Cu%, 159.81 Ag g/t
- Barite Bodies: 178 kt, 54.55 BaSO<sub>4</sub>%
- The total summed value of these : 1,2 – 1,8 Billion EUR as known reserves.

# Known and Predicted Mineral Reserves II.



- After closing of the mines extensive research and exploration work was conducted on the sites. Based on the preliminary results much larger volume and more valuable reserves are predicted.
- To prove the predictions HUN MINING approved an exploration program and predicted that the results should be evaluated by independent expert auditors with the assignment to produce the assessment documentation of the mining potentials of the project as per internationally acknowledged standards.
- The preliminary results indicate significant copper, zink, lead silver ore and barite reserves besides the well documented iron ore fortune.

The preliminary estimations predict reserves of 5,5 – 6 Billion EUR value.



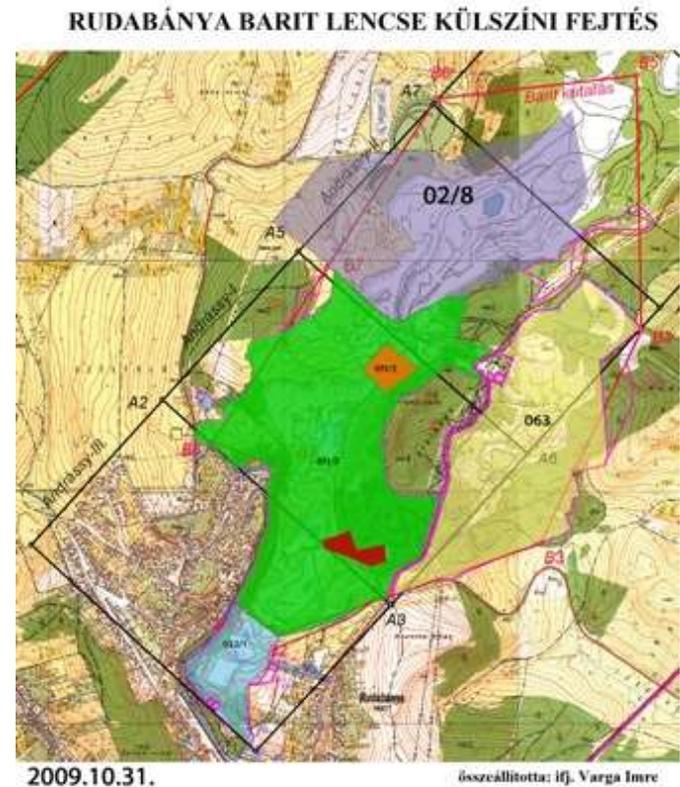
# Known and Predicted Mineral Reserves III.

- For the geological nature of Rudabánya region is rather complex and the mixed state of ore bodies and mineral types the economies of a complex mining and mineral processing technology are better than those of a monoculture, focused one.
- In the future mining and mineral processing operations high added value smelter ready ore concentrates and high graded metallic products will be produced as a result of the technology to be established and implemented.
- The mining project is planned to be realized in three phases over the 30 km<sup>2</sup> territory of License 1. that sums up about 228 million EUR investment volume including all mineral processing facilities. The mining operation is planned for 25 – 30 years while about 5,5 – 6 billion EUR value can be created according to the estimations of today.



# Starting Mining Operations

- Based on archive data HUN MINING prepared a summary – an exploration closing report necessary for opening a mining plot in April 2011. As the first phase a small to middle sized mining operation could be started for Barite and copper ore concentrate as a by-product.
- It is worth though to postpone starting of mining operations until the data from novel exploration works are achieved and evaluated. Based on the new data more economic mining technology and mineral processing facilities can be established.



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## Ways of Investment in HUN Mining Affiliates

Professional or financial Investors are being sought for who can supply necessary financing to the investment projects

The possible forms of co-operation:

- Share holder of HUN Mining by private placement,
- Direct Investment in Affiliates gaining partial ownership over individual companies
- Forming a JV between GM Affiliated companies and third party
- Providing long term loan: 10 years running time, 4% interest on EUR basis
- Providing rolling credit line for 10 years, on EURIBOR + 2% basis for called part and EURIBOR for unused

Each way has its own risks and securities structure

We are open to further discussion



# **Appendix 1. Cash Flow Plan 2012 - 2022**

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**Cash Flow Plan of HUN Mining Nyrt. Rudabánya Open Pit Mining Operations and Mineral Processing for 2012-2022**

Total Loan Volume

200 000 000 Euro

Running time of loan

10 Yrs

1st yr is odd

Interest rate

6%/ annum

1 st yr w/o  
interest

Currency rate

294 HUF/EUR

Investment Items		Tsnd HUF	EUR
Exploration Prgram, JORC Documentation, Planning, Authorization		1 176 000 000	4 000 000
Purchasing of Mining Land		294 000 000	1 000 000
Mine preparation works, earth work, surface cleaning		1 176 000 000	4 000 000
Open Pit MINING Technology, Logisctics		29 400 000 000	100 000 000
Clasifier Units, Faciltities, Franctionators		3 822 000 000	13 000 000
Transport Units		1 176 000 000	4 000 000
Ferous-Chloride Plant Construction (Mineral Processing with Chemical Leaching)		7 791 000 000	26 500 000
Piloting, Pilot Runs		882 000 000	3 000 000
Buldings		588 000 000	2 000 000
Dust free storage facilities		588 000 000	2 000 000
Crushing and Milling Plant		1 470 000 000	5 000 000
Purchasing Hasit Site and its Development		735 000 000	2 500 000
Running Cost Financing		882 000 000	3 000 000
Financial reserves		8 820 000 000	30 000 000
Investment Total		58 800 000 000	200 000 000

Products		2013-2014	2014-2025	Unit Price, EUR/Mt
<b>Baritmix Processing / Mineral Processing</b>				
Ferroflock R Ferrous Chloride		30 000	50 000	125
BARITE		20 000	20 000	40
Hematit e		16 000	16 000	70
Magnetite		16 000	16 000	70
Baritmix Heavy Concrete Additive		50 000	50 000	80
Dolomite		25 000	35 000	5
<b>HASIT Products</b>				
Gypsum + blended construction material products		30 000	60 000	70
<b>Mining Products</b>	100%	1 000 000	2 000 000	
Iron Ore	25	250 000	500 000	76,38
Copper Ore Concentrate	7	70 000	140 000	79,29
Barit e	3	30 000	60 000	30,10
Zink Ore	5	50 000	100 000	15,80
Lead Ore	2	20 000	40 000	10,80
Barren as Road Construction or Fundation Material	58	580 000	1 160 000	3,00



