Real-time optimization of extraction and the logistic process in highly complex geological and selective mining settings

Fact Sheet

Project Information

Real-Time-Mining
Grant agreement ID: 641989

Funded under
H2020-EU.3.5.3.

Project website

Overall budget
€ 6 566 702,50

EU contribution
€ 5 629 199,75

Start date
1 April 2015
End date
31 March 2019

Coordinated by
TECHNISCHE UNIVERSITEIT
DELFT
Netherlands

Objective

The overall aim of Real-Time-Mining is to develop a real-time framework to decrease environmental impact and increase resource efficiency in the European raw material extraction industry. The key concept of the proposed research promotes the change in paradigm from discontinuous intermittent process monitoring to a continuous process and quality management system in highly selective mining operations. Real-Time Mining will develop a real-time process-feedback control loop linking online data acquired during extraction at the mining face rapidly with an sequentially updatable resource model associated with real-time optimization of long-term planning, short-term sequencing and production control decisions. The project will include research and demonstration activities integrating automated sensor based material characterization, online machine performance measurements, underground navigation and positioning, underground mining system simulation and optimization of planning decisions, state-of-the-art updating techniques for resource/reserve...
of planning decisions, state-of-the-art updating techniques for resource/reserve models. The impact of the project is expected on the environment through a reduction in CO2-emissions, increased energy efficiency and production of zero waste by maximizing process efficiency and resource utilization. Currently economically marginal deposits or difficult to access deposits will be become industrial viable. This will result in a sustainable increase in the competitiveness of the European raw material extraction through a reduced dependency on raw materials from non-EU sources.

Field of science

/engineering and technology/environmental engineering/waste management/energy efficiency

Programme(s)

Topic(s)

Call for proposal

H2020-SC5-2014-one-stage

Funding Scheme

RIA - Research and Innovation action

Coordinator

TECHNISCHE UNIVERSITEIT DELFT

Address

Stevinweg 1
2628 CN Delft
Netherlands

Activity type

Higher or Secondary Education Establishments

EU contribution

€ 1 031 412,50

Website

Contact the organisation

Participants (12)

RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

Germany

EU contribution

€ 1 023 062,50
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<th>Country</th>
<th>EU contribution</th>
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<th>Activity type</th>
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<tr>
<td>IMPERIAL COLLEGE OF SCIENCE TECHNOLOGY AND MEDICINE</td>
<td>United Kingdom</td>
<td>€ 458 985</td>
<td>South Kensington Campus Exhibition Road SW7 2AZ London</td>
<td>Higher or Secondary Education Establishments</td>
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<tr>
<td>ASSOCIACAO DO INSTITUTO SUPERIOR TECNICO PARA A INVESTIGACAO E DESENVOLVIMENTO</td>
<td>Portugal</td>
<td>€ 375 583,75</td>
<td>Avenida Rovisco Pais 1 1049 001 Lisboa</td>
<td>Research Organisations</td>
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<td>NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO</td>
<td>Netherlands</td>
<td>€ 486 546</td>
<td>Anna Van Buerenplein 1 2595 DA Den Haag</td>
<td>Research Organisations</td>
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<td>GEOVARIANCES SA</td>
<td>France</td>
<td>€ 83 750</td>
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**DASSAULT SYSTEMES GEOVIA LTD**

United Kingdom

EU contribution

€ 525 250

Address

Unit 6 Phoenix Business Park,
Telford Way
LE673HB Coalville

Activity type

Private for-profit entities
(excluding Higher or Secondary Education Establishments)

Contact the organisation [link]

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**LSA-LASER ANALYTICAL SYSTEMS & AUTOMATION GMBH**

Germany

EU contribution

€ 207 500

Address

Feldstrasse 40
52070 Aachen

Activity type

Private for-profit entities
(excluding Higher or Secondary Education Establishments)

Website [link]

Contact the organisation [link]

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**XGRAPHIC INGENIEURGESELLSCHAFT MBH**

Germany

EU contribution

€ 267 500

Address

Aretzstraße 9
52070 Aachen

Activity type

Private for-profit entities
(excluding Higher or Secondary Education Establishments)

Contact the organisation [link]
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<tr>
<td>EIKELKAMP SONICSAMPDRILL BV</td>
<td>Netherlands</td>
<td>€ 223,750</td>
<td>Uitmaat 8, 6987 ER Giesbeek</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
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<td>TECHNISCHE UNIVERSITAET BERGAKADEMIE FREIBERG</td>
<td>Germany</td>
<td>€ 524,610</td>
<td>Akademiestrasse 6, 09599 Freiberg</td>
<td>Higher or Secondary Education Establishments</td>
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<td>SPECTRAL INDUSTRIES BV</td>
<td>Netherlands</td>
<td>€ 243,750</td>
<td>Olof Palmestraat 14, 2616 LR Delft</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
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<td>INGENIEURPARTNERSCHAFT FUR BERGBAU WASSER UND DEPONIETECHNIK WILSNACK &amp; PARTNER</td>
<td>Germany</td>
<td>€ 177,500</td>
<td>Meissner Ring 10, 09599 Freiberg</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
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