



Sonic Drilling coupled with Automated Mineralogy and chemistry On-Line-On-Mine-Real-Time

Fact Sheet

Project Information

SOLSA

Grant agreement ID: 689868

[Project website](#)

DOI

[10.3030/689868](#)

Project closed

EC signature date

14 December 2015

Start date

1 February 2016

End date

31 December 2020

Funded under

SOCIETAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Materials

Total cost

€ 9 775 488,25

EU contribution

€ 9 775 488,25

Coordinated by
ERAMET SA
 France

This project is featured in...



Sustainable innovative solutions for mineral exploration

Objective

"SOLSA is the first automated expert system for on-site cores analysis. With access to data on-line, great savings are expected on the number of drill holes, the accuracy of geo-models and economic evaluation of ore reserves. SOLSA responds perfectly to the need for "New sustainable exploration technologies and geo-models" of SC5-11d-2015. The objective is to "develop new or improved highly efficient and cost-effective, sustainable exploration technologies". It includes (1) integrated drilling optimized to operate in the difficult lateritic environment with the challenge of a mixture of hard and soft rocks, extensible also to other ore types, (2) fully automated scanner and phase identification analyser and software, usable as well in other sectors. SOLSA combines for the first time the non-destructive sensors X-ray fluorescence, X-ray diffraction, vibrational spectroscopies, 3D and hyperspectral imaging along the drill core. For that purpose, SOLSA will develop innovative, user-friendly and intelligent software, at the TRL 4-6 levels. To minimize the risk and capitalize on the newest technologies, the subsystems for the hardware, will be selected on the market of miniaturized sensors. To align SOLSA to the industrial needs and to guarantee market uptake at the end of the project, the SOLSA multidisciplinary consortium includes an end-user (ERAMET) with mining and commercial activities in laterite ores, the case study selected for the project. Industrially driven, the consortium is composed of LE, SMEs and academic experts (ERAMET (PI), F; SSD, NL; BRGM, F; INEL, F; Univ. Vilnius, Lt; CNRS-CRISMAT, F; Univ. Trento, I; Univ. Verona, I; TU Delft, NL) covering exploration, database management, instrumentation and software development, drilling rigs, analytical prototypes and marketing strategies. SOLSA is expected to revolutionize exploration and push Europe in front, by reducing the exploration time at $\approx 50\%$, the analysis time from 3 - 6 months to real-time and thus the environmental footprint."

Fields of science (EuroSciVoc)

[natural sciences](#) > [computer and information sciences](#) > [databases](#)

[engineering and technology](#) > [environmental engineering](#) > **[mining and mineral processing](#)**

[natural sciences](#) > [computer and information sciences](#) > [artificial intelligence](#) > **[expert systems](#)**

[engineering and technology](#) > [electrical engineering, electronic engineering, information engineering](#) > [electronic engineering](#) > **[sensors](#)**

[natural sciences](#) > [earth and related environmental sciences](#) > [geology](#) > **[mineralogy](#)**



Programme(s)

[H2020-EU.3.5. - SOCIETAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Materials](#)

MAIN PROGRAMME

[H2020-EU.3.5.3. - Ensuring the sustainable supply of non-energy and non-agricultural raw materials](#)

Topic(s)

[SC5-11d-2015 - New sustainable exploration technologies and geomodels](#)

Call for proposal

[H2020-SC5-2014-2015](#) 

[See other projects for this call](#)

Sub call

H2020-SC5-2015-one-stage

Funding Scheme

[RIA - Research and Innovation action](#)

Coordinator



ERAMET SA

Net EU contribution

€ 1 221 250,00

Total cost

€ 1 877 601,94

Address

10 BOULEVARD DE GRENELLE

75015 PARIS 15

 France 

Region

Ile-de-France > Ile-de-France > Paris

Activity type

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

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Participants (11)

 THIRD-PARTY 

SOCIETE LE NICKEL SLN

 New Caledonia

Net EU contribution

€ 128 851,94

Address

2 RUE DESJARDINS POINTE DE DONIAMBO

98800 NOUMEA 

Activity type

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

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 128 851,94

 THIRD-PARTY 

ERAMET IDEAS

 France

Net EU contribution

€ 527 500,00

Address

1 AVENUE ALBERT EINSTEIN

78190 Trappes 

Region

Ile-de-France > Ile-de-France > Yvelines

Activity type

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

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 527 500,00



EIJKELKAMP SONICSAMPDRILL BV

 Netherlands

Net EU contribution

€ 1 887 500,00

Address

UITMAAT 8

6987 ER GIESBEEK 

SME 

Yes

Region

Oost-Nederland > Gelderland > Arnhem/Nijmegen

Activity type

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

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 1 887 500,00



BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES

France

Net EU contribution

€ 572 012,50

Address

3 AV CLAUDE GUILLEMIN
45060 Orleans

Region

Centre — Val de Loire > Centre — Val de Loire > Loiret

Activity type

Research Organisations

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

€ 572 012,50



INEL S.A.S

France

Net EU contribution

€ 934 900,00

Address

ZA CD 405
45410 ARTENAY

SME

Yes

Region

Centre — Val de Loire > Centre — Val de Loire > Loiret

Activity type

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

Links

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[Participation in EU R&I programmes](#)
[HORIZON collaboration network](#)

Total cost
€ 934 900,00



VILNIAUS UNIVERSITETAS

Lithuania
Net EU contribution
€ 601 107,50

Address
UNIVERSITETO G. 3
01513 Vilnius

Region
Lietuva > Sostinės regionas > Vilniaus apskritis

Activity type
Higher or Secondary Education Establishments

Links
[Contact the organisation](#) [Website](#)
[Participation in EU R&I programmes](#)
[HORIZON collaboration network](#)

Total cost
€ 601 107,50



CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS

France
Net EU contribution
€ 1 008 896,89

Address
RUE MICHEL ANGE 3
75794 Paris

Region
Ile-de-France > Ile-de-France > Hauts-de-Seine

Activity type

Research Organisations

Links

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- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

€ 1 191 895,06

 THIRD-PARTY 

UNIVERSITE DE CAEN NORMANDIE

 France

Net EU contribution

€ 182 998,17

Address

ESPLANADE DE LA PAIX
14032 Caen Cedex 5 

Region

Normandie > Basse-Normandie > Calvados

Activity type

Higher or Secondary Education Establishments

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

€ 182 998,17



UNIVERSITA DEGLI STUDI DI TRENTO

 Italy

Net EU contribution

€ 1 465 276,25

Address

VIA CALEPINA 14
38122 Trento 

Region

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

€ 1 465 276,25



UNIVERSITA DEGLI STUDI DI VERONA

Italy

Net EU contribution

€ 972 695,00

Address

VIA DELL ARTIGLIERE 8

37129 Verona

Region

Nord-Est > Veneto > Verona

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

€ 972 695,00



TECHNISCHE UNIVERSITEIT DELFT

Netherlands

Net EU contribution

€ 272 500,00

Address

STEVINWEG 1

2628 CN Delft



Activity type

Higher or Secondary Education Establishments

Links

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[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 272 500,00

Last update: 10 March 2023

Permalink: <https://cordis.europa.eu/project/id/689868>

European Union, 2025