

## Atividades de divulgação

**Feira:** *Innovations in Large-Area Electronics Conference 2018 (innoLAE 2018)*

**Data/Local:** 23 e 24 de janeiro de 2018 / Cambridge

### Forma de divulgação:

- Apresentação de um demonstrador funcional, sob a forma de uma pedra natural com capacidades de sensorização e atuação sobre um display inserido nessa mesma pedra;
- Roll-up do projeto.



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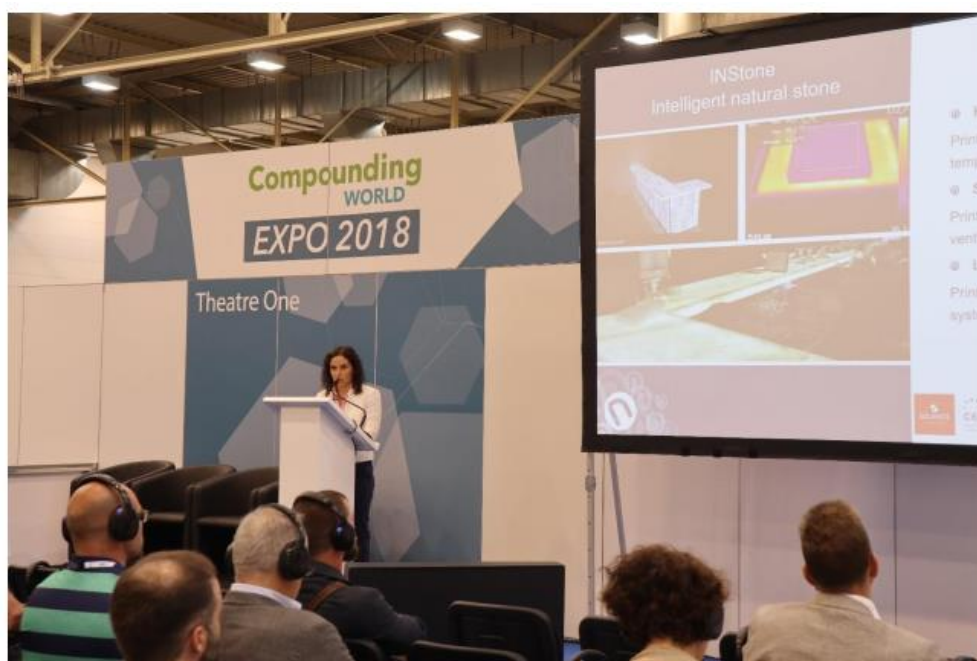
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**Feira:** *Compounding World Expo 2018*

**Data/Local:** 27 e 28 de junho de 2018 / Essen, Alemanha

**Forma de divulgação:**

- Comunicação oral
- Flyers



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**Meio de Divulgação:** publicação na newsletter do Cluster Habitat Sustentável  
(<https://mailchi.mp/c55eabbaf92c/59zqr52u8q-3326277>)

**Data/Local:** agosto de 2018

**Forma de divulgação:**

- Newsletter



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**Feira:** *8th ECTP Conference – When EU Construction industry shapes high-tech Sustainable Built Environment*

**Data/Local:** 13 e 14 de novembro de 2018 / Bruxelas, Bélgica

**Forma de divulgação:**

- Roll-up do projeto.



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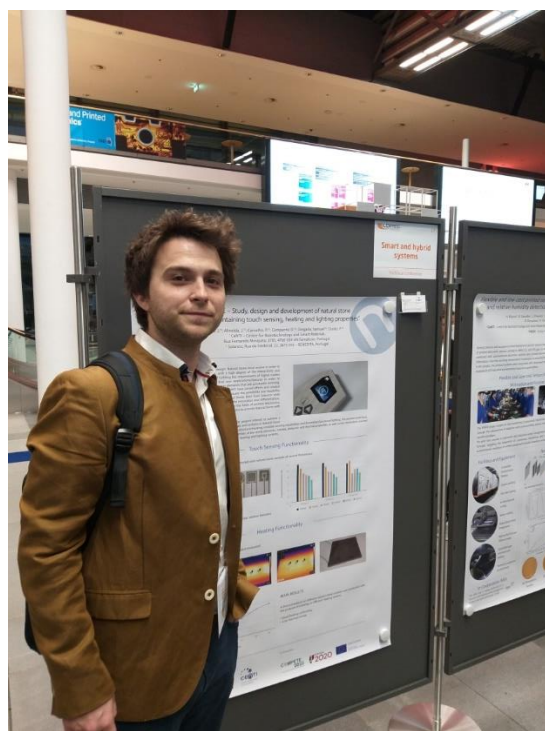
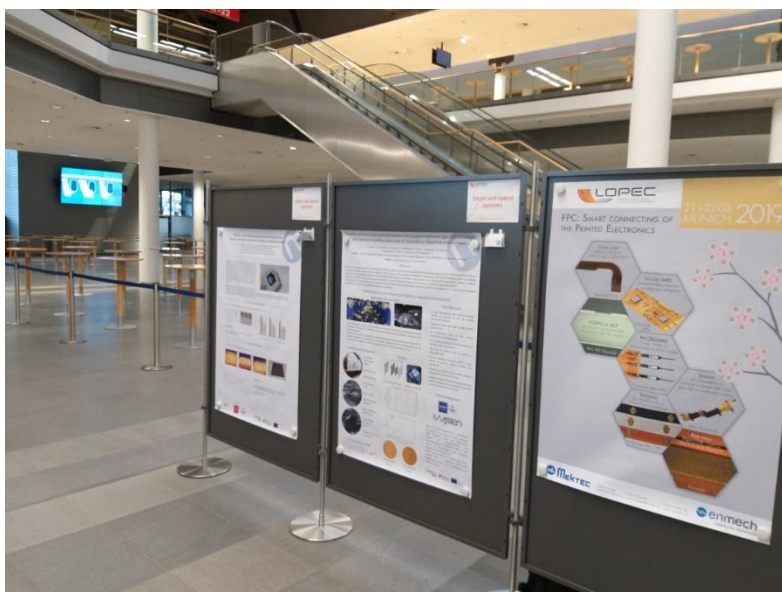
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**Feira:** *LOPEC – Large-area, Organic & Printed Electronics Convention*

**Data/Local:** 19 a 21 de março de 2019 / Munique | Alemanha

**Forma de divulgação:**

- Poster Científico



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## Material gráfico

*Roll-up do projeto:*



partnership



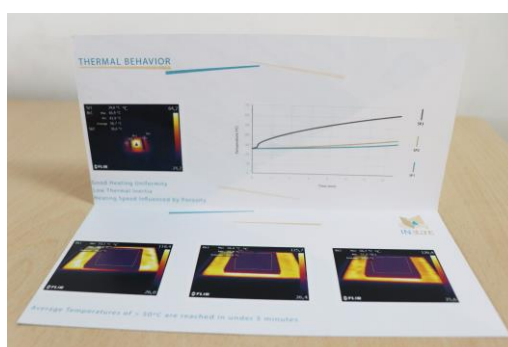
co-funding



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## Flyer do projeto:



## Poster Científico:

### "INSTONE – Study, design and development of natural stone structures containing touch sensing, heating and lighting properties"

Califórnia, A.<sup>(1)</sup>; Silva, J.<sup>(1)</sup>; Almeida, J.<sup>(1)</sup>; Carvalho, P.<sup>(1)</sup>; Campanhã, D.<sup>(1)</sup>; Delgado, Samuel<sup>(2)</sup>; Durão, P.<sup>(2)</sup>

<sup>1</sup> CeNTI – Centre for Nanotechnology and Smart Materials,  
Rua Fernando Mesquita, 2785, 4760-034 VN Famalicão, Portugal

<sup>2</sup> Solancis, Rua da Sindocal, 22, 2475-016 – BENEDITA, Portugal



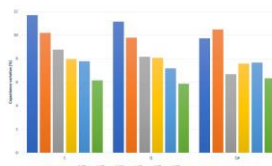
Together with an attractive design, Natural Stone must evolve in order to present new characteristics, with a high degree of the interactivity and applicability, with the goal of fulfilling the requirements of higher market niches. Natural Stone must find new applications/features in order to respond to markets and consumer demands that are constantly evolving. To achieve this goal, SOLANCIS and CeNTI have joined efforts and created the INStone project, which aims to evaluate the possibility and feasibility of introducing new features into Natural Stone. Born from Solancis' wide strategic vision and continuous search for innovation and differentiation, in partnership with CeNTI – as experts in the fields of printed electronics, smart systems and IoT – INStone project aims to provide Natural Stone with new features.

Based on the concept of smart homes, the project intends to achieve a seamless incorporation of intelligent materials and systems in Natural Stone to achieve functionalities such as integrated structural heating, invisible sensing capabilities and decorative/functional lighting. The present work focus on the characterization of the relevant properties of the stone elements, namely, dielectric and thermal properties, as well as the conclusions reached in the design and application of the sensing, heating and lighting systems.



#### Touch Sensing Functionality

Different sensor designs were evaluated and tested with natural stone samples of several thicknesses.

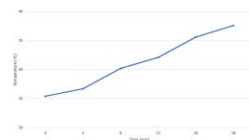
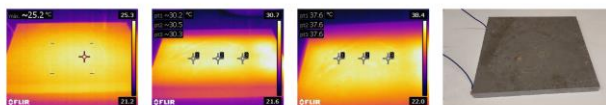


#### MAIN RESULTS

Design C showed best behavior, presenting a clear relation between thickness and capacitive variation.

#### Heating Functionality

Thermal behavior of natural stone samples were evaluated.



#### MAIN RESULTS

A thermal analysis of different natural stone samples was conducted with the purpose of creating an efficient heating system.

- Good heating uniformity;
- Low thermal inertia;



Partnership



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