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Innovative solutions to scale-up urban green surfaces across Europe

HORIZON 2020

## Innovative solutions to scale-up urban green surfaces across Europe

### Reporting

**Project Information Funded under** ScalinGreen SOCIETAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Grant agreement ID: 666726 **Materials** Project website **Total cost** € 1 057 472,50 DOI 10.3030/666726 **EU** contribution € 733 231,00 **Project closed Coordinated by** NATURAL GRASS EC signature date France 3 June 2015 Start date End date 1 July 2015 31 August 2017

Periodic Reporting for period 2 - ScalinGreen (Innovative solutions to scale-up urban green surfaces across Europe)

Reporting period: 2016-07-01 to 2017-08-31

Summary of the context and overall objectives of the project

The ambition of this programme is to enable the widespread adoption of ground-breaking solutions to bring back nature in cities.

The French start'up Natural Grass offers several disruptive solutions for urban greening:

1. AirFibr, the sports field application for football and rugby pitches, golf courses and horse-riding grounds

2. CityNest, the green building solution for green walls and green buildings

3. GreenMove, the future of urban infrastructure: green parking slots, green tramway track beds, green highway sound walls.

This programme aims at removing an important lock for Natural Grass: the mastery of its production process in order to overcome the following limitations:

- Flexibility: It only works with a very precise set of components

- Control: Designed to produce the AirFibr substrate, the current line does not allow to vary the cork/sand/fibres ratio over all the range necessary to produce the substrate for CityNest and GreenMove, hence the substrate has to be manually enriched in cork

- Reproducibility: a minor change in the process parameters or in the components characteristics can cause the process to fail

## Work performed from the beginning of the project to the end of the $\sim$ period covered by the report and main results achieved so far

To achieve these ambitious objectives, the ScalinGreen project proposed an innovation programme structured in three steps:

I. A study of the current process to formalize and generalize Natural Grass technical know-howII. II. The development of a set of innovative tools necessary for multiple substrate fabrication testsIII. The completion of the final objectives: the development of a fully functional prototype line and of a wider range of appropriate substrate constituents.

As planned, the scientific program of the first year of the Scalin'Green project focused on two major issues: the advanced characterization of Natural Grass patented culture substrate and the review and improvement of Natural Grass production process.

On the first hand, significant advances have been made in the characterization of the substrate:

- The multiple characterization and quality methods developed with a practical point of view during the early years of Natural Grass have been reviewed

- More advanced techniques have been applied to the substrate, allowing to gain insights on the multiple parameters allowing to further improve the quality of Natural Grass substrate

- Some simple and quick characterisation methods have also been investigated in order for Natural Grass to be able to increase the ability of the company to develop new substrates.

On the other hand, Natural Grass has fully reviewed its production process:

- The existing knowledge has been formalised through a complete study of the production line. This allowed to have a clearer view of the strength and weaknesses of the current production process.

- Several lab scale tests have been performed allowing to refine the knowledge about the most

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important parameters of the production process.

- Major improvements have been proposed and validated by real scale tests.

# Progress beyond the state of the art and expected potential impact (including the socio-economic impact and the wider societal implications of the project so far)

The scientific results obtained in the ScalinGreen project enabled to improve the knowledge of the mixing process and the mechanical properties of mixture and granular composite reinforced with fiber in general and of Natural Grass Radicalé substrate in particular.

These results are of general interest because of the many applications of the fibre reinforced composite and their many applications.

They are also of major interest for Natural Grass to improve its production process and to develop new products.

Hence, thanks to these results; Natural Grass activity has continued its development:

- Natural Grass has achieved its first commercial successes outside France and its technology now equips the "Stade du 5 Juillet 1962" in Algiers, (Algeria), and the training grounds of the Real Madrid (Spain) and Arsenal FC (United Kingdom).

- The diversification of offered products has continued with a tennis ground project in Deauville and built-in vegetation project in Paris

- Natural Grass has continued the growth of its total sales. In 2015, the growth was 40% and the year 2016 has started on a similar basis.

Finally, Natural Grass has done some dissemination of these results.

- Thanks to UEFA's Euro 2016, in particular, the company has gained a lot of media coverage, including reports in major TV broadcasts, and in French and international newspapers. All of them outlined the quality of Natural Grass' technology and the outstanding results obtained by the stadia equipped with AirFibr in the very difficult conditions of the Euro 2016.

- Natural Grass has worked jointly with EASME to communicate around the project: a success story double pager has been written and used for internal and external communication and it resulted in contacts with the international press and to the presentation of Natural Grass success story to the new laureates of the SME Instrument.



Natural Grass Airfibr technology installed in Parc OL (Lyon, France)

Last update: 16 February 2017

Permalink: https://cordis.europa.eu/project/id/666726/reporting

European Union, 2025