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SPECIAL FEATURE
SOIL AND SUSTAINABILITY: RAISING THE GAME FOR EUROPEAN AGRICULTURE

Free, easy access to information on novel biofertiliser technologies and products

Farmers will need support if they are to comply with new regulation related to the use of unsustainable fertilisers beyond 2022. The NUTRIMAN project gives them an online platform presenting new and upcoming solutions that can facilitate the switch to biofertilisers.

The majority of Europe's agricultural land is fertilised using chemically processed nitrogen and phosphorus. Not that these mineral fertilisers have much else other than numbers going for them. They cause algae to grow faster than ecosystems can handle, pollute water, are made from non-renewable resources and are produced using fossil energy and water-intensive processes.

Mineral phosphorus – which originates from rock phosphate with cadmium and uranium toxic metal content – is also on the EU's list of highly important materials risking supply shortage. It is almost exclusively imported and has a very low recycling rate.

The conclusion is clear. To keep their businesses afloat, improve food safety, ensure continued soil quality and preserve our environment, farmers will eventually need to switch to bio-based fertilisers. But there are many obstacles ahead. The availability of highly concentrated and pure biofertilisers is limited, and a new EU regulation

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reducing the amount of cadmium allowed in all fertilisers – including bio-based ones – will enter into force as of July 2022. Meanwhile, farmers' knowledge of and confidence in bio-based fertilisers are still low.

"We need more trust and knowledge all across the value chain. Farmers should understand the real benefits of bio-based fertilisers and how to practically use them in their farming processes," says Edward Someus, Recycling and Upcycling Engineer at 3R-BioPhosphate Ltd. So far, basic research programmes have failed to get farmers' attention. They're more interested in innovations that are 'ready for practice' and already proven under real market conditions.

A WEB PLATFORM FOR ALL FARMERS

This is where the NUTRIMAN (Nutrient Management and Nutrient Recovery Thematic Network) project kicks in. Since October 2018, 3R-BioPhosphate Ltd and other actors from across the value chain have been working on a free-of-charge web platform where new, user-driven innovations are showcased to farmers. The platform specifically focuses on innovative nitrogen/phosphorus nutrient recovery solutions, which are key to a sustainable farming model using safe bio-based fertilisers.

"Our platform lists and presents 'ready-for-use' recovery technologies and products focusing on the most urgent needs of farmers. The database is continuously expanded and will continue to be until 2031," Someus explains. "It presents all solutions just before they are introduced to the market or slightly after."

As they looked for such innovative solutions, the team was surprised by the relatively low number of new, competitive and market-driven technologies and products above TRL 6. From the over 600 projects invited to join, only 62 have made it to the NUTRIMAN Farmer Platform so far. Someus expects this number to reach 100 by September 2021.

"Our platform lists and presents 'ready-for-use' recovery technologies and products focusing on the most urgent needs of farmers."

One year before its scheduled end, NUTRIMAN has already contributed to a large-scale take-up of innovative, recovered nitrogen and phosphorus fertilisers. These include, for instance, a zero-emission pyrolysis technology (3R Recycle-Recover-Reuse) enabling phosphorus recovery from food grade animal bone grist at industrial scale. "The resulting biophosphate does not contain any chemicals or contaminants and boasts a P_2O_5 nutrient density as high as 35 % while being safe, cheap and efficient," Someus notes. On the nitrogen front, another example is the Poul-AR® technology which enables the production of ammonia sulphate/nitrate from poultry manure.

The project team hopes to reach over 1.5 million farmers from 2019 to 2021 and many more within the following 10 years. As they keep updating their platform's database, Someus and his colleagues can undoubtedly provide significant support for farmers with solutions delivering a high economic impact, most importantly in compliance with actions under the new EU Fertilising Products Regulation beyond 2022.

NUTRIMAN

- Coordinated by 3R-BioPhosphate in Hungary
- Funded under H2020-FOOD
- cordis.europa.eu/project/id/818470
- Project website: nutriman.net/

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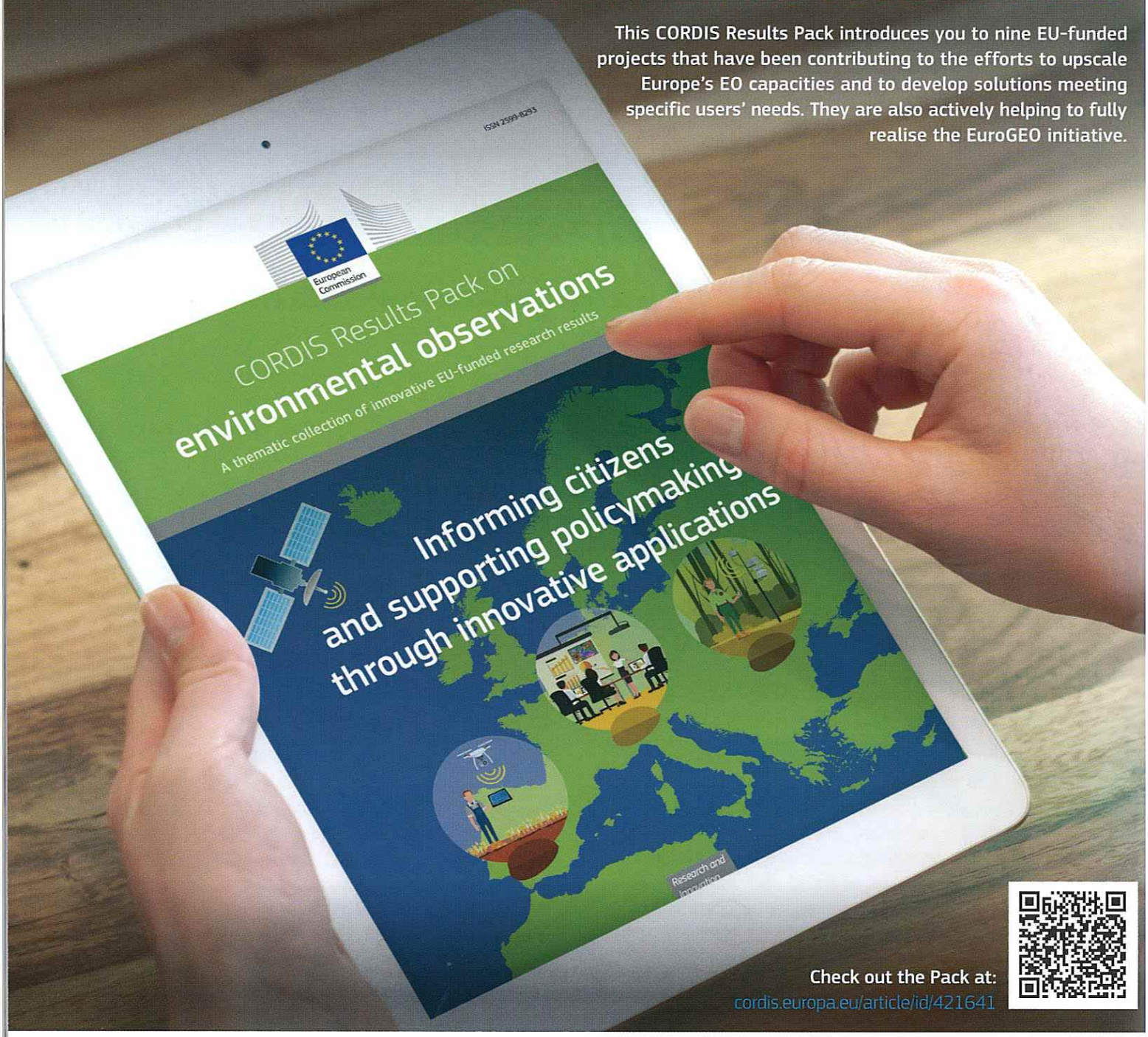
CORDIS RESULTS PACK ON ENVIRONMENTAL OBSERVATIONS

This CORDIS Results Pack introduces you to nine EU-funded projects that have been contributing to the efforts to upscale Europe's EO capacities and to develop solutions meeting specific users' needs. They are also actively helping to fully realise the EuroGEO initiative.



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