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First Sm@RT physical transnational workshop in July in France!

Sm@RT (Small Ruminant Technologies) is an EU Horizon 2020 thematic network that aims to share knowledge and improve farmers' uptake of digital technologies, to help increase the efficiency and sustainability of small ruminant farming systems in Europe and beyond.

Sm@RT organised its first physical transnational workshop (TNWS) in Saint Affrique (France; Aveyron department) on the 5th and 6th of July, unlike the two previous TNWS that were online, due to the Covid 19 situation. Around 70 delegates from 7 countries (France, Ireland, UK, Norway, Italy, Estonia, Israel), composed of farmers, advisors, lecturers and researchers participated to this event. During the two days in France, delegates had a very interesting and intense agenda. The first day was dedicated to the visit of two sheep farms. The first visit was held at the digifarm “la Cazotte”, a dairy sheep farm in the heart of the Roquefort area, with 420 ewes. “la Cazotte” is linked to an agricultural school, and thus plays an important role for training and best practices transfer. The second farm visited was the INRAE experimental farm “la Fage”, a dairy (500 ewes) and meat sheep farm (280 ewes reared extensively). During the visits, delegates had the opportunity to see and learn about the use of 14 small ruminant innovative technologies: virtual fence, connected fence, weather station, UHF (ultra high frequency) identification, water meter, lactocorder, Gely INRAE test tubes, automatic feeder in the milking parlour, milk tank weighing, walk over weighing, proximity logger, weighing and sorting crate, individual feed bins, and shed sensors (temperature, humidity and CO2). The first day ended with an impressive visit of the Roquefort Société sheep cheese caves.

The second workshop day started with a presentation of the French sheep sector. Delegates were presented informative facts about the dairy and meat sheep production in France, which is mostly located in the south of France. Since 2009, meat sheep production remains stable, and dairy production has increased slightly.

Following this, each Sm@RT delegate country presented an innovative technology to the other countries’ delegates. Israel presented their solution for sheep automatic weighing and water consumption in one weighing trough; Ireland focused on their weighcrate auto-sorter; Norway presented their GPS collar; the UK showed their DNA sampling for lamb parentage; Estonia presented their hay drying machine, and Italy their individual milk meter. Finally, delegates were asked to rank the different innovative technologies presented during the 2 days. The three technologies preferred were the weighing trough, the weighcrate auto-sorter and the GPS collar. The TNWS ended with a high level of satisfaction from the delegates.

The next TNWS is scheduled for Spring 2023 in Norway and will focus on feedback related to a selection of innovative technologies for the small ruminant sector.

Laurence Depuille, French Network Facilitator for Sm@RT based at Idele (France) says: *“I’m pleased to have organised the first Sm@RT physical transnational workshop in France. This is impressive to see how delegates were active and willing to share their view on innovative technologies.”*

Jean-Marc Gautier, Sm@RT work package leader, based at Idele (France) says: *“Sm@RT, based on a multiactor approach, is very well adapted to foster knowledge sharing on innovative technologies. According to the different countries and rearing systems, shared solutions are quite different but inspiring for all.”*

Claire Morgan-Davies, Sm@RT coordinator, from SRUC, said: *“It was great to be able to see each other for the first time, the group dynamic was fantastic and the organisation by the French partners flawless. It was nice to see delegates exchanging ideas and seeing for themselves the wide range of innovative technologies available to the sheep and goats sectors”.*

Notes to Editors:



The institutes making up the Sm@RT network are:

- Moredun Research Institute, Scotland
- SRUC (Project Coordinator), Scotland
- Institut de l'Élevage, France,
- Norsk Institutt for Bioøkonomi (NIBIO), Norway
- Teagasc – Agriculture and food development authority, Ireland
- Debreceni Egyetem (UNIDEB) Hungary
- AGRIS Sardegna – Agenzia per la Ricerca in Agricoltura, Italy
- Institut National de la Recherche Agronomique, l'Alimentation et l'Environnement (INRAE), France
- Agricultural Research Organisation of Israel, Israel
- Estonian University of Life Sciences (Eesti Maaulikool), Estonia
- In Extenso Innovation Croissance (IEIC), France

To keep up to date with Sm@RT, visit their website or social media accounts:

- **Website:** www.H2020-Smart.eu
- **Facebook:** <https://www.facebook.com/H2020Smart/>
- **Instagram:** [H2020Smart](https://www.instagram.com/H2020Smart)
- **Twitter:** [@H2020Smart](https://twitter.com/H2020Smart)

The €2M Euro Sm@RT project is funded by the EU H2020 thematic networks call RUR-15-2018-2019-2020: "Thematic networks compiling knowledge ready for practice". Sm@RT is a European wide network to encourage the use of Precision Livestock Farming and Digital Technologies across the small ruminant sector. This project has received funding from the European Union H2020 programme (H2020/2014-2020) under grant agreement No 101000471.

Partner details

SRUC (Scotland's Rural College) is the UK's leading Research, Education and Consultancy providing organisation specialising in services for the land-based industries both nationally and internationally. As a large, modern, and multi-disciplinary organisation, SRUC has a concentration of skills and resources that are unrivalled in the UK, throughout Europe and further afield. SRUC's aim is to create, develop and apply knowledge, skills and understanding to enhance the sustainability of rural areas and communities and the viability of the industries on which they depend. Its approximately 1500

staff provide research, education and consultancy services to small and medium-sized enterprises, corporate clients, local and regional authorities and state agencies and departments. More information: www.sruc.ac.uk

The Moredun Foundation is owned and governed by farmers and is one of the largest livestock charities in the UK, working to promote the highest standards of health and welfare of animals through research and education. The Moredun Foundation governs the work of the Moredun Research Institute to conduct internationally recognised research on the infectious diseases of livestock to help find solutions for major challenges to modern farming such as the consequences of a changing climate; ensuring safe and sustainable food and water supplies conserving biodiversity and finding solutions to infectious diseases. Today, many of the veterinary medicines and vaccines that are routinely used on farm have either been researched, developed or tested at Moredun. More information: www.moredun.org.uk

The French Livestock Institute (Institut de l'Élevage, acronym Idele) is the French national technical reference and normative body in livestock farming systems. It is a nonprofit, non-governmental organization featuring management by livestock farmer's federations and trade unions. Its activities encompass applied research, technical assistance and technology transfer in cattle, sheep, goats and horses husbandry sciences. It employs 300 people. The main research topics are genetic evaluation, population management and selection, phenotyping and data collection, management of observatories of breeds, precision livestock farming, animal husbandry techniques and environment including fodder and pastoralism, quality of animal products, animal health and welfare, farm economics, value chain economics, farm workmanship and social approaches, methods and tools for references and advisory services.

Norwegian Institute of Bioeconomy Research (NIBIO) is subject to the Ministry of Agriculture and Food as an administrative agency with special authorization and its own supervisory board. The goal of the Institute is to contribute to food security, sustainable resource management, innovation and value creation through research and knowledge production within food, forestry and other biobased industries. NIBIO delivers research, managerial support and knowledge for use in national preparedness, as well as for businesses and the society at large. Approximately 700 employees are present in all parts of the country. The main office is located at Ås in Akershus, just outside Oslo. More information: www.nibio.no

Teagasc – Agriculture and food development authority, Ireland is the national body providing integrated research, advisory and training services to the agriculture (farming & forestry) and food industries and rural communities. The Teagasc mission is to support science-based innovation in the agri-food sector and the broader bioeconomy that will underpin profitability, competitiveness and sustainability. Teagasc is a client-based organisation employing approximately 1,200 staff at 55 locations throughout Ireland and operates in partnership with all sectors of the agriculture and food industry and with rural development agencies. Teagasc has developed close alliances with research, advisory and training agencies throughout the world and are continuously seeking to expand its international contacts.

Debreceni Egyetem (UNIDEB) Hungary

UNIDEB is the oldest, continuously operating higher education institution in Hungary. Today, the University of Debrecen carries out its agricultural training, research and development activities in three organizational units: the Faculty of Agriculture, Food Science and Environmental Management (MÉK), the Faculty of Economics (GTK) and the Institutes for Agricultural Research and Educational Farm (AKIT). Research activities of the Institutes for Agricultural Research and Educational Farm involve the entire agricultural sector. Research is carried out on the field of animal husbandry, crop production, horticulture, environmental management, nature conservation, wildlife management, food science, quality assurance and natural sciences. At the Kismacsi Animal Husbandry Experimental Farm, gene conservation, breeding and production activities are carried out in parallel with the practical training. In the field of animal husbandry, the research area is the genetic analysis of hairy and shaggy wool sheep in order to stabilize the national herd. The Faculty of Agriculture, Food Science and Environmental Management - adapting to today's scientific challenges - formulates both its training and research activities according to the circular bio-economy model, which is based on the recycling of materials and values, by increasing the added value of the produced product, through services and smart solutions. It is especially important for us to maintain a wide-ranging system of professional and economic relations with the enterprises of the region, which, on the one hand, provides the conditions for practical training and, on the other hand, helps to utilize the scientific results created at the University. Our undergraduate and master's programs, our talent management colleges, and our doctoral schools all play a decisive role in higher agricultural education and scientific supply.

More information: <https://mek.unideb.hu/en>, <https://akit.unideb.hu/en>

AGRIS Sardegna – Agenzia per la Ricerca in Agricoltura, Italy

AGRIS is the regional agency of Sardinian government devoted to research and technology transfer in agriculture, agri-food industry, forestry and marine resources. The mission of the agency is to support sustainable rural development, favour animal welfare, protect or enhance biodiversity at microbial, vegetal and animal level. In particular, Agris – Livestock Production and Animal Product Divisions- have developed since early 70s research and innovation in the field of animal genetics, nutrition and reproduction, farming systems, quality assessment and technology of dairy and meat products from sheep, goat and cattle. Agris has a well rooted experience on the development of precision farming tools and techniques aimed at improving animal welfare, production efficiency and product quality. More information: <http://www.sardegnaagricoltura.it/innovazionericerca/agris/>

Institut National de la Recherche Agronomique, l'Alimentation et l'Environnement (INRAE), France

carries out mission-oriented researches for better food and nutrition, preservation of the environment and competitive, sustainable agricultural practices. The institute aims to carry out science dedicated to life, humans, and the Earth that uncovers solutions to our most pressing concerns. Humankind and the planet are facing global changes provoking new challenges for research to address: limiting the effects of and adapting to climate change; increasing food security and nutrition security; transitioning to new agricultural systems; preserving natural resources; restoring biodiversity; and anticipating and managing risks while considering regional issues like living conditions, farmers' salaries, the economic competitiveness of companies, land use, and universal access to healthy and varied diets. As the world's top institute for research on agriculture, food, and the environment, INRAE address these concerns by using research, innovation, and support for public policies as tools to guide the emergence of sustainable agricultural and food production systems. INRAE is suited to perform valuable research on numerous topics, including

agroecological transition of farming systems, water resources, regional agricultural strategies, the preservation and restoration of biodiversity, risk anticipation and management, and digital agriculture.

Agricultural Research Organisation of Israel, and PLF lab, Israel

Located at the Volcani Center campus in Bet-Dagan, near Tel-Aviv, ARO's six institutes are responsible for Plant Sciences, Animal Science, Plant Protection, Soil, Water and Environmental Sciences, Agricultural Engineering, and Postharvest and Food Sciences. ARO also operates four research stations, in various parts of the country, and serves as a testing center for agricultural produce and equipment. Israel's Gene Bank for Agricultural Crops is also located on the ARO Volcani Center campus.

The Precision Livestock Farming (PLF) Lab, is a research unit at the Institute of Agricultural Engineering of the Agriculture Research Organization.

While encompassing the full range of agricultural research activities, the PLF lab focuses in particular on developing PLF management concepts and their associated monitoring technologies (sensors) for farmed animals (dairy, sheep, goats, poultry, and aquaculture).

The lab's researchers and close and long-standing relationships with Israeli students, engineers and technicians and their counterparts in Europe, the US, Australia and elsewhere; and with Israeli technological and agricultural companies. The laboratory implements its vision through excellence in research and development, to help Israel to continue achieving one of the highest levels of agricultural output in the world.

The Estonian University of Life Sciences (Eesti Maaulikool) is the centre of research and development in such fields as agriculture, forestry, animal science, veterinary science, rural life and economy, food science and environmentally friendly technologies. The mission of the Estonian University of Life Sciences is to guarantee sustainable use of natural resources and enhance rural development. EULS manages currently 250 research projects funded by the EU, Estonian Research Council, non-profit organisations, national authorities and private enterprises.

More information: www.emu.ee

In Extenso Innovation Croissance (IEIC), France is a French entity specialized in innovation management, it is specialized in supporting the development of innovative projects and represents a team of 100 consultants with backgrounds in both engineering and marketing/finance. For the last 16 years, In Extenso Innovation Croissance have built a strong experience and expertise in innovation management, thanks to its partnerships with startups, incubators, accelerators, public clusters, etc. Since innovation management is the core of its DNA, IEIC is able to deal with all the data available on different markets and to evaluate a specific innovative project in its own environment, in order to estimate the valuation of a technology or innovative product or service.