



Press Release 3 – May 2022

Sm@RT demonstrates digital technologies to improve efficiency of small ruminant production

There are approximately 98 million small ruminant animals in the EU, of which 87% are sheep. Thus small ruminant (sheep and goat) farming is important to the rural economy of many countries. To improve labour efficiency and productivity, innovative digital technologies or Precision Livestock Farming (PLF) tools, are used routinely in other livestock sectors e.g., dairy and pig. However, the uptake of these technologies by the small ruminant sector is low for a number of reasons.

The Sm@RT project, which is funded by the EU Horizon 2020 research programme, recently held its second Transnational Workshop on 22nd February 2022. Sm@RT is a thematic network that aims to improve the uptake of new digital technologies or precision livestock farming (PLF) tools to improve labour efficiency in small ruminant farming systems in Europe and beyond.

The Sm@RT transnational workshop was attended by over 90 sheep and goats' industry stakeholders from Ireland, France, Norway, Estonia, Hungary, Italy, UK and Israel. The stakeholders attending the workshop included farmers, advisors, meat processors, vets and researchers. During the Sm@RT transnational workshop there were multiple breakout sessions, each dealing with available technologies that can improve small ruminant efficiency. The five areas in small ruminant production which were discussed included 1) feeding/grazing, 2) health/welfare/reproduction, 3) milking, 4) finishing/fattening and 5) flock management. Details of the PLF technologies, including videos of the technologies in operation, were presented for discussion by the delegates in breakout rooms.

From the 16 PLF technologies identified to solve challenges for the feeding/grazing theme, delegates voted that Electronic ID weighcrates + autosorter, and drones were the best technologies presented at the meeting. The Electronic ID weighcrate + autosorter was chosen as it facilitates automatic weight recording, determines live weight change and facilitates automatic drafting.

Of the 24 PLF technologies/tools presented for the health/welfare/reproduction theme delegates voted the sheep conveyor, automatic milk feeders for lambs and 3D-imaging as the best tools presented. The conveyor was chosen as it restrains and moves animals during dosing and vaccinating without physical strain on the farmer. Automatic feeders facilitate artificially rearing large numbers of lambs with minimal labour input.

Under the milking theme, delegates chose the milk meter + management software and somatic cell counter as the best technologies presented. The milk meter + management software was chosen as it quantifies individual ewe milk yields and thus identifies the best performing animals.

Under the fattening/finishing theme, 10 PLF solutions were identified with the delegates voting the flock recording app and automatic grass measuring as the best technologies. The flock recording app was chosen as it saves time when recording data and can help with selecting replacements, animal for culling, etc.

For the flock management theme, 11 PLF technologies/tools were identified, and delegates voted for the data recording system, environmental station + cooler, and an app for measurement and analysis of working time as the best technologies. The data recording system was chosen as it saves time when recording data and can help with selecting replacement and cull animals.

The videos presented at the Sm@RT TNWS are available for viewing on the Sm@RT YouTube Channel (<https://www.youtube.com/channel/UCafSFzvQvNLRdcucJEWONCQ/videos>)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 101000471.



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

- **Website:** www.smartplatform.network
- **Facebook:** <https://www.facebook.com/H2020Smart/>
- **YouTube:** <https://www.youtube.com/channel/UCafSFzvQvNLRdcucJEWONCQ>

Feeding/Grazing



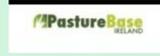
SmartFence/Virtual fence



EID weighcrate + autosorter



Grazing management app



Automated grass measurement



Pregnancy scanning



Ration/Feeding Software



Drone



Portable NIR



Milkmeter



Automatic feeder



Connected Fence



GPS collars



Postdried hay technology



HappyGrass



Drone with thermal camera



GPS collars with behaviour



Health/Welfare/Reproduction



EID hand-held wand/data loggers



Data recording system / Flock recording app



EID weigh crate and autosorter



FEC software (FecPak G2)



Pregnancy scanning



Parentage test



Worming /vaccinating gun



Sheep conveyor



Happy Factor algorithm



Camera



Somatic Cell counter



Weather/ environmental station



Water meter



Automatic feeder



Alpha detector



3D imaging



Ultra High Frequency



Walk Over Weigh



Environmental enrichment



EID-enabled water trough



GPS & proximity ear-tags



Guard dog & high tensile fence



Milk feeders for kids/lambs



GPS collars & behaviour information



Fattening



EID hand-held wand/data loggers



Walk Over Weigh



EID weigh crate and autosca



FEC software



EID tags



Electronic weather station



Automated grass measures



Happy Factor algorithm



EID-enabled weighing trough



Flock recording app (Sheepireland)



Milking/Transformation

Milk tank weighing



Milk meter + milking management software



Somatic Cell Count



Flock/Herd monitoring



<p>EID hand-held wand</p>  	<p>Worming/Vaccinating guns</p>  	<p>EID weigh crate and autosorter</p>  	<p>Milking parlour with EID</p>  
<p>Aptimiz</p>  	<p>Environmental station + cooler</p>  	<p>Automatic feeder</p>  	<p>Camera</p>  
<p>Milk meter</p>  	<p>EID-enabled water trough</p>  		
<p>Data recording system</p>  			