Precision breeding has emerged over the last few years, particularly in cattle farms. Its development can be linked not only to the availability of new technologies in the areas of microelectronics, IT, telecommunications and nanotechnology but also to breeders needing to increase their farms' productivity and efficiency. Precision breeding is mainly associated with the dairy cattle sector to manage areas such as feed, detection of infectious and metabolic disease and/or monitoring events linked to reproduction.

FGE has supported this development by participating in the conception of new applications involving high speed phenotyping, by adapting data collection protocols and also by working to improve connectivity on French livestock farms.
Sensors in farms: 67% of dairy farmers possess at least one connected piece of equipment

In 2015, a study of 772 dairy farmers in the west and the centre of France (Idele, Evolution, Orange, 2015) showed that 13% were equipped with milking robots, 30% with some other automated equipment, 29% with some type of sensor attached to animals (heat detection or calving) and 26% with some type of sensor within the building (milk meters, cameras...). In total, 67% of dairy farmers possessed at least one connected sensor or appliance able to automatically record data relating to their animals.

Robotics in farms: the number of farms equipped with milking robots has doubled since 2010

Since the beginning of the 2000s, the number of farms equipped with at least one milking robot has shot up and reached approximately 4800 at the end of 2015. The number of equipped farms has doubled since 2010 and has multiplied by 7 since 2006. According to statistics published by the IFR (International Federation of Robotics), 5180 milking robots were sold worldwide in 2014. France represents about 15% of the global market.

Data generated by these new technologies: towards a big data for agriculture

All the data generated by the sensors and automated tools in farms adds to the data already collected from more traditional channels (identification, insemination, performance recording...) and further feeds the big data in agriculture.

Exploiting this data coming from digital methods, by crossing them with other data sources, presents significant opportunities in the medium-term in the areas of genetic selection, breeding advisory services, creation of references etc.