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Project Overview

Kevin Doolin

TSSG, Waterford Institute of Technology

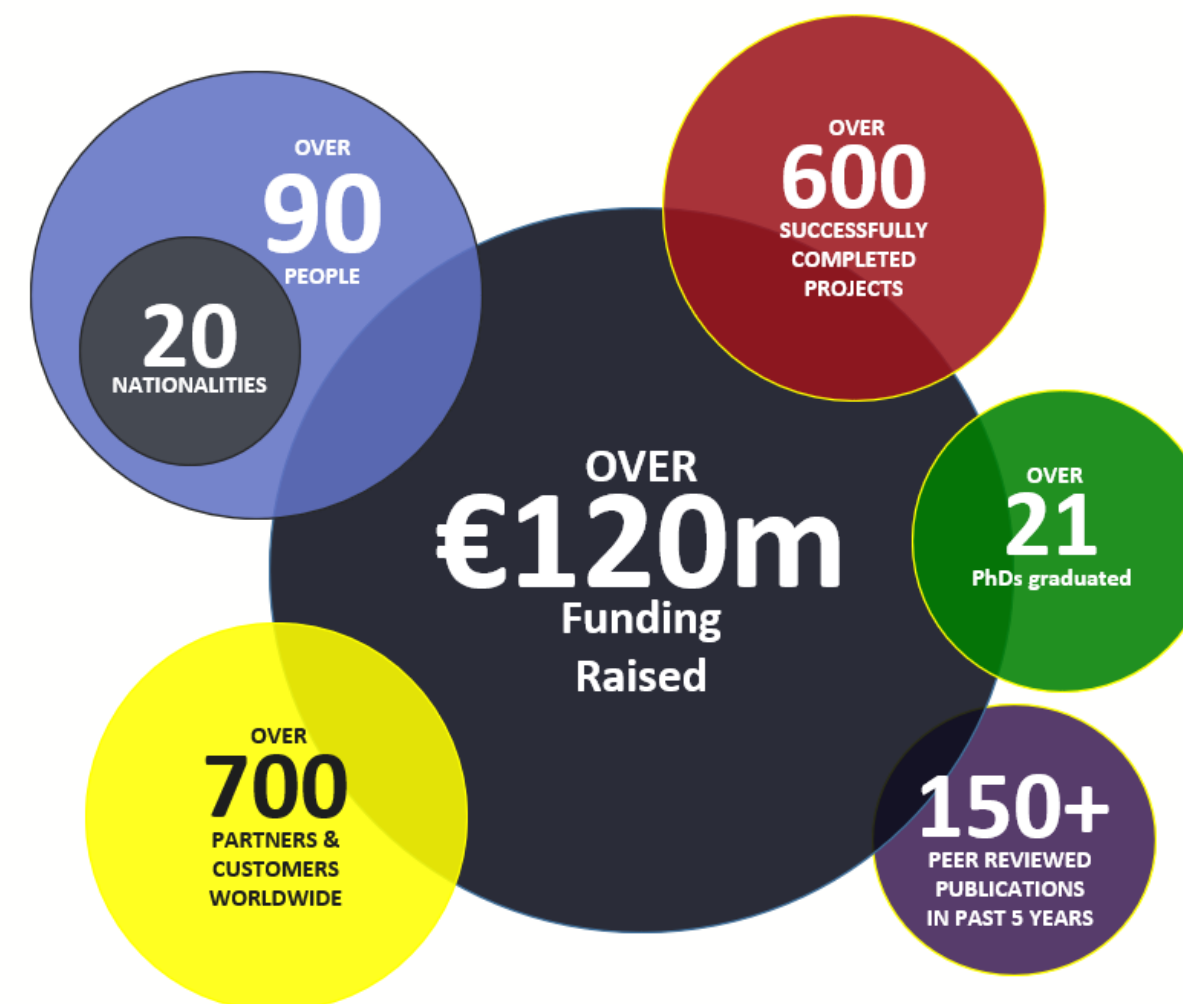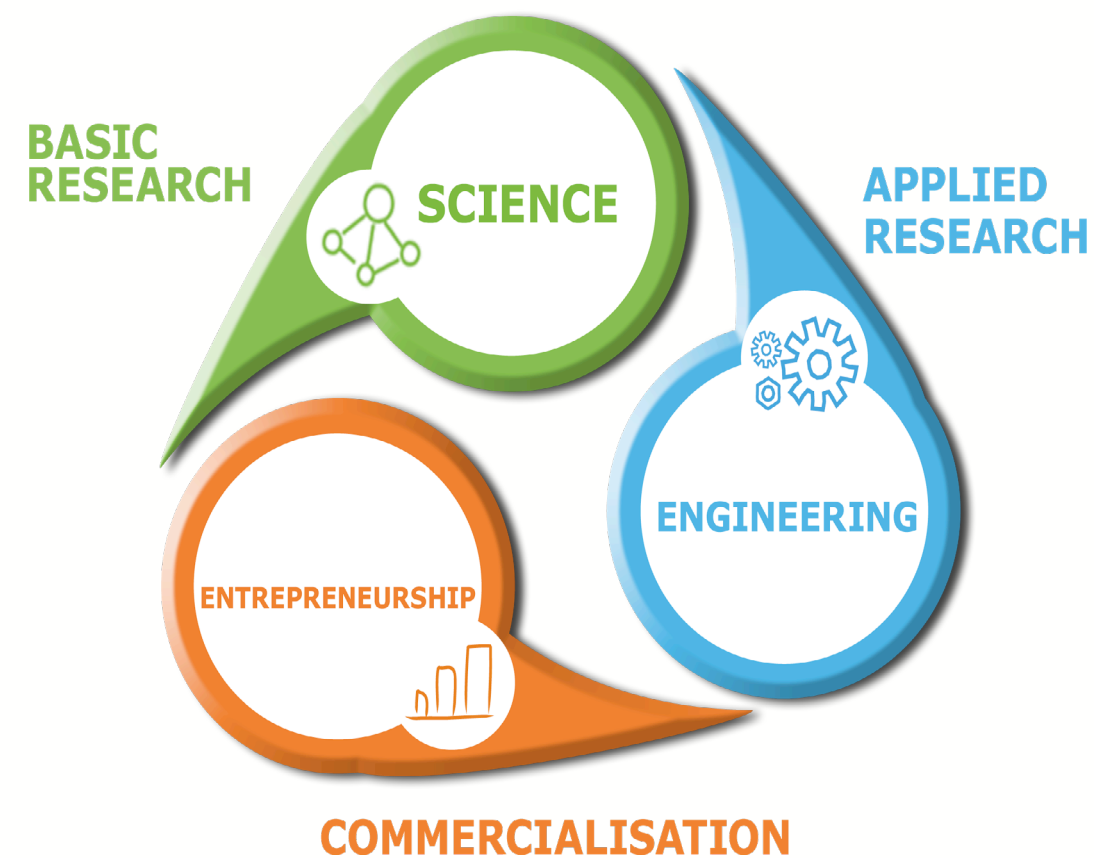# The Telecommunications Software and Systems Group (TSSG) at WIT

TSSG
- International Research Institute hosted by WIT.
- Founded in 1997.
- Led by **(co-directors)** Director of Innovations **Kevin Doolin** and Director of Research **Sasitharan Balasubramaniam** and Has 90+ staff and is 100% self funded.

Fundamental Expertise

- Communications networks and wireless systems
- Machine Learning and AI
- Emerging Communication Technologies
- Pervasive Environments and Computing

In a nutshell

15 member states

18 Countries

60 Partners

318k hectares of land

Working with **5.7k** Farmers

29k Sensors used across **80** sites

9.2k Devices & **131** Large Machinery

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20 Pilots

5 Agri Sectors

Global
Outreach:
69 farming associations

47 Countries

1.5 Billion People

Multi-Actor Approach

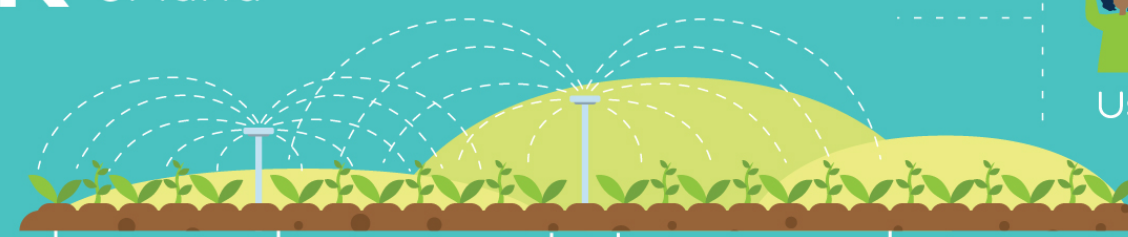Using Practical **skills** & **knowledge** to target real life needs, problems & opportunities.
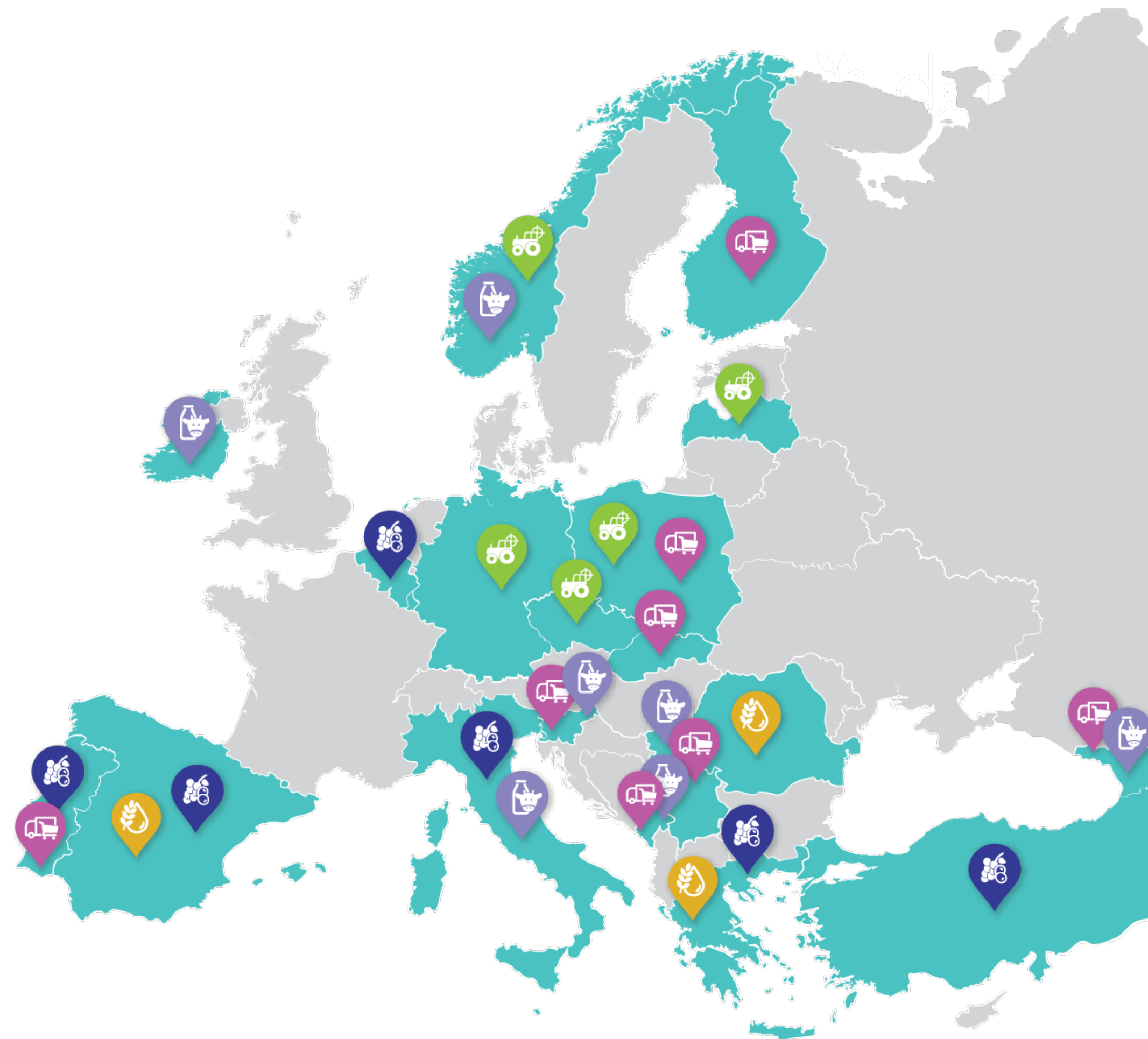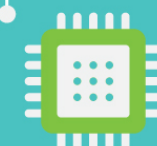
Sector: Arable Crops

Focus: Water & Energy Management

- Water savings in irrigated crops
- Smart energy management in irrigated & arable crops
- Optimal Quality Rice Irrigation
- IoT Corn Management & Decision Support Platform

Sector: Arable Crops

Focus: Agricultural Machinery, Precision Farming

- In-Service Condition Monitoring of Agricultural Machinery
- Automated documentation of arable crop farming processes
- (Farming)Data Brokerage Service and Decision Support System for Farm Management
- Benchmarking at Farm Level Decision Support System

Sector: Fruit & Vegetables

Focus: Health and high-quality crops

- Decision Support System to support olive growers
- Precision Farming for Mediterranean Woody Crops
- Pest Management Control on Fruit Fly
- Open platform for improved crop monitoring in potato farms

Sector: Livestock

Focus: Animal Health, High Quality

- Dairy Farmers Dashboard for the entire milk and meat production value chain
- Consumer awareness: Milk quality and animal welfare tracking
- Proactive milk quality control
- Optimal chicken farm management

Sector: Cross-sectorial

Focus: Full supply chain, interoperability, robotics

- Disease prediction and supply chain transparency for orchards/vineyards
- Farm of things in extensive cattle holdings
- Pollination optimisation in apiculture
- Transparent supply chain in poultry industry

Status and Next Steps

- Started Sept 2019
- Multi Actor Approach fully underway
- Initial requirements and architecture ready
- Piloting starting (with Covid delays)
- Open Calls in preparation

- www.h2020-demeter.eu
- twitter.com/H2020DEMETER
- facebook.com/H2020Demeter
- linkedin.com/company/h2020-demeter
- Youtube

TSSG

Thank you

Kevin Doolin

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HORIZON 2020

SEVENTH FRAMEWORK
PROGRAMME

sfi
Fondúireacht Eolaíochta Éireann
Science Foundation Ireland

ENTERPRISE
IRELAND