The European Commission’s science and knowledge service

Joint Research Centre
Technology for CAP Simplification and Modernisation

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History of technological support to the CAP implementation

- **1990**: Pilot studies on MSs
- **1995**: EC-funded pilot studies on MSs
- **2000**: Agenda 2000
- **2003**: CAP Reform
- **2005**: Health check
- **2010**: Validation of Area Measurement Tools
- **2013**: CAP Reform
- **2020+**: Area Monitoring
- **2020**: LPIS Quality Assessment
- **2025**: JRC provision of satellite imagery to EU MSs

- **1990**: On-The-Spot Checks with Remote Sensing (CwRS)
- **1995**: Pilot studies on candidate countries
- **2000**: MS pilot studies
- **2003**: Quality control of CwRS
- **2005**: Digital Land Parcel Identification System (LPIS)
- **2010**: Areas of Natural Constraints
- **2013**: GAEC and FAS Web DB
- **2020+**: Agro-economic modelling platform
- **2025**: Crop yield forecast and bulletins

**EU enlargements**:
- **1995**: EU 12
- **2004**: EU 15
- **2007**: EU 27
- **2013**: EU 28
- **2027**: EU 28
The reformed CAP in context

55 000 000 000 € / year
7 million farmers

Environment
13% of EU arable land suffer from erosion

Agricultural Land
48% of EU territory

growth and jobs
44 million jobs in the food chain

climate change
Provides essential carbon sinks

Food and feed production
EU Agri-food exports 131 billion euro annually

research & innovation
Technology: key contributor to the current CAP

Error rate below 2 %

Land Parcel Identification System

ID-12031965
9.22 ha
Arable crop
Technological disruption or opportunity?

Compliance

Administration and control

Performance

E-governance
Technology: key enabler for CAP2020+

Based on results

Fairer: all farms

Automated

Preventive

AGRI, ENV, CLIMA ... objectives

e-governance

Error rate still below 2%

62 kilometres of green corridors added in our Region in 5 years
Following crop condition and calendar from satellite.
Immediate: from On-The-Spot Checks to monitoring

1. Farmer
2. Paying agency
3. Notification
4. Dossier decision making
5. Field expert
6. Field visit plan
7. Declaration
8. Risk analysis
9. Inspection plan
10. Contractor
11. Control zones definition
12. JRC
13. Image interpretation
14. Control with remote sensing data
15. Purchased Imagery
16. Monitoring unit
17. Visual check plan
18. Automated report
19. Alert message
20. Monitoring method
21. Technical support
22. “refine”
23. Copernicus
24. Sentinel data
25. Image interpreter
26. Declaration
27. Dossier categorisation
28. JRC
29. Image provider
30. Administration responsibility

Graphical representation: Diagram showing the flow of tasks and responsibilities from farmer to paying agency, involving steps such as notification, dossier decision making, field expert involvement, field visit plan, declaration, risk analysis, inspection plan, contractor, control zones definition, JRC, and image provider. The diagram also highlights the integration of surveillance methods like Copernicus and Copernicus Sentinel data.
Technology that makes things simpler ...

Pre-filled digital application
Use of:
- Cloud
- Automated process

Data capture:
Geotagged/time stamped photos
Use of:
- Galileo
- Cloud

Interoperability allowing Automated reporting
Use of:
- Big data
- Automated process

Simpler for farmer
Simpler for farmer and administration
Simpler for administration
A role for JRC

New delivery model of the CAP

- EU specific objectives
- Set of common indicators
- Broad types of interventions

EU

- Quality assessments of processes
- Support MS strategic plans

MS

- CAP Strategic Plans
- Tailor CAP interventions to their needs
- Implementation / progress towards targets

Ensure effective and efficient policy implementation

JRC

Experts, Knowledge, Desk officer, Science based, Reference, Modelling, Analysis, Data bases, Innovation, Technology
Timelines

**Strategic Plans**
progress and evaluations

**Performance Monitoring and Evaluation Framework**
Baselines and Impact, Result and Output Indicators

**Assurance**
Area Monitoring System

**Policy performance**
multi-annual and annual assessments

**Common Monitoring and Evaluation Framework**
Land Parcel Identification System QA/QC

**Monitoring Agricultural Resources**
yield and production forecasts (etc.)

1990…. 25 + years of research and related support
Since the 1990’s JRC has provided unstinting scientific and technical support to the CAP.

Rules and technology have always progressed hand in hand.

The system behind may become more rich in data - but implementation and access to the policy will become easier.

Europe needs its rural areas, and European rural areas need this modernisation - the science, the technology and the willingness to help are there.