



# REAMIT Networking Symposium

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Online event

REAMIT Pilot Test (WP T1). By < **University of Nantes (Gepea)** >

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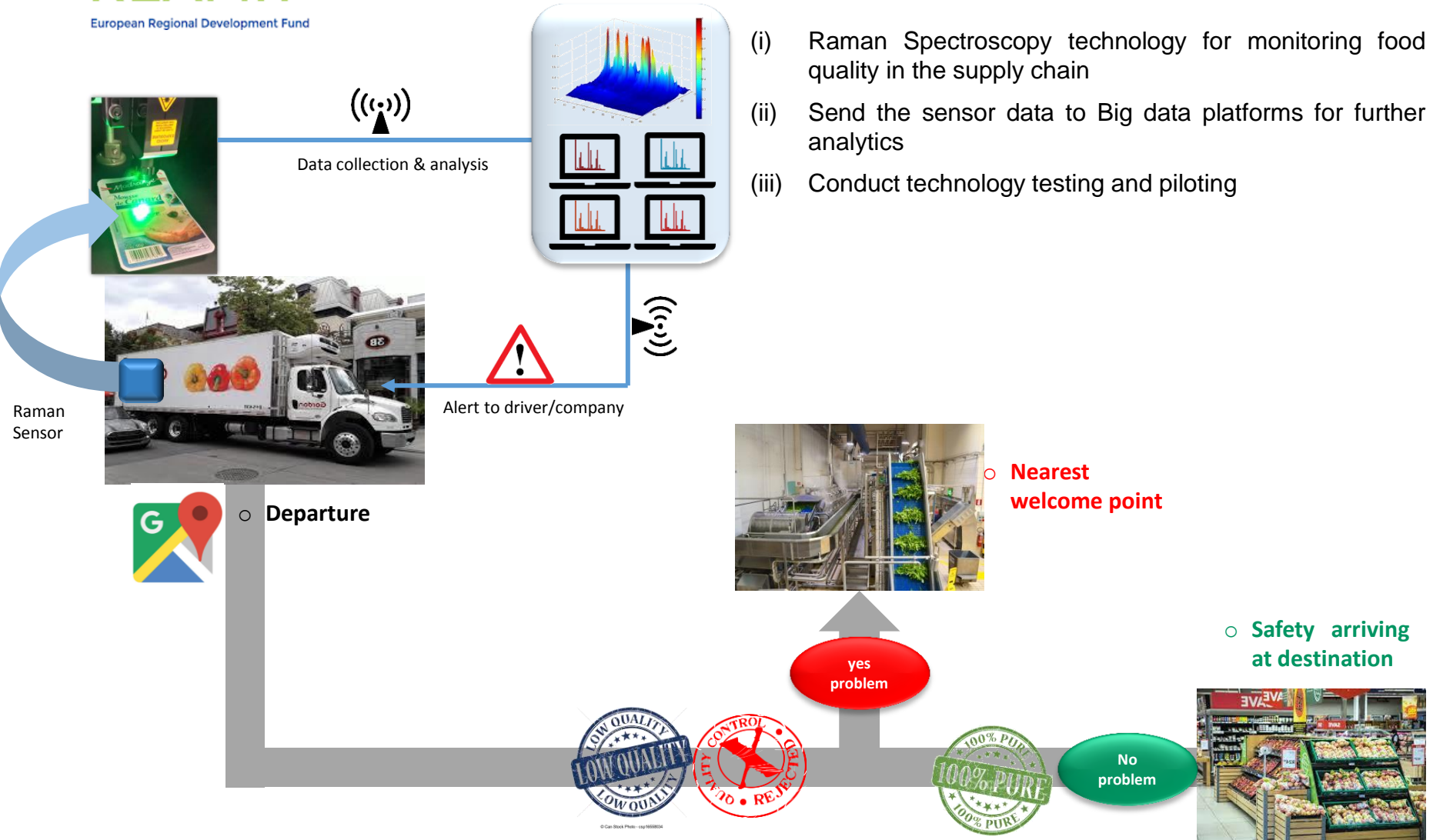


## North-West Europe REAMIT

European Regional Development Fund

### UoN will perform the following activities in REAMIT

- (i) Raman Spectroscopy technology for monitoring food quality in the supply chain
- (ii) Send the sensor data to Big data platforms for further analytics
- (iii) Conduct technology testing and piloting

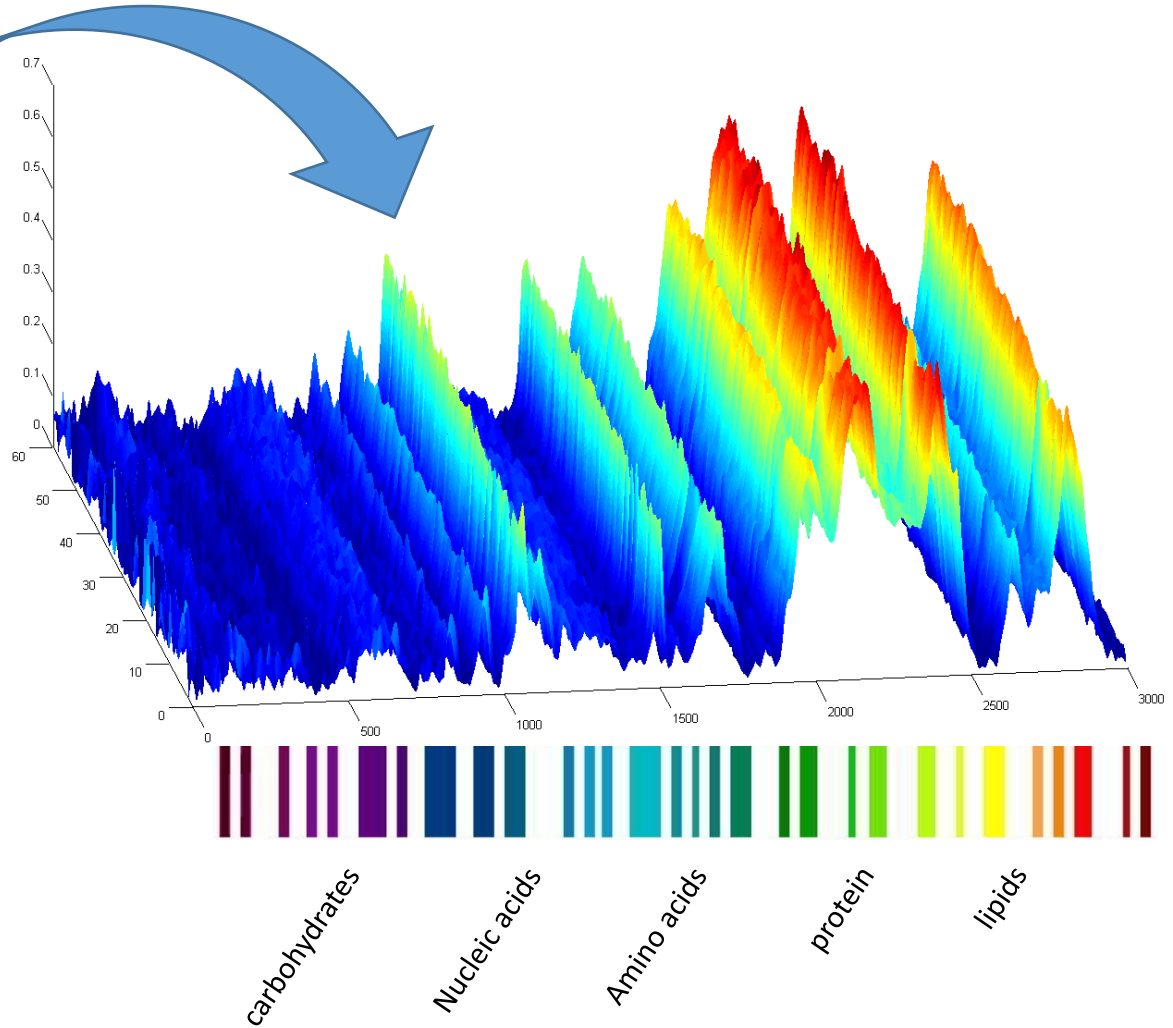


## Why Raman spectroscopy ?

- ❑ Non-invasive and non-destructive analysis:  
**no sample preparation required**
- ❑ A **small quantity** of sample is sufficient
- ❑ **Very fast** analysis
- ❑ One shot = **simultaneous verification**  
The presence/absence of pathogens  
Lipid/protein/carbohydrate,...



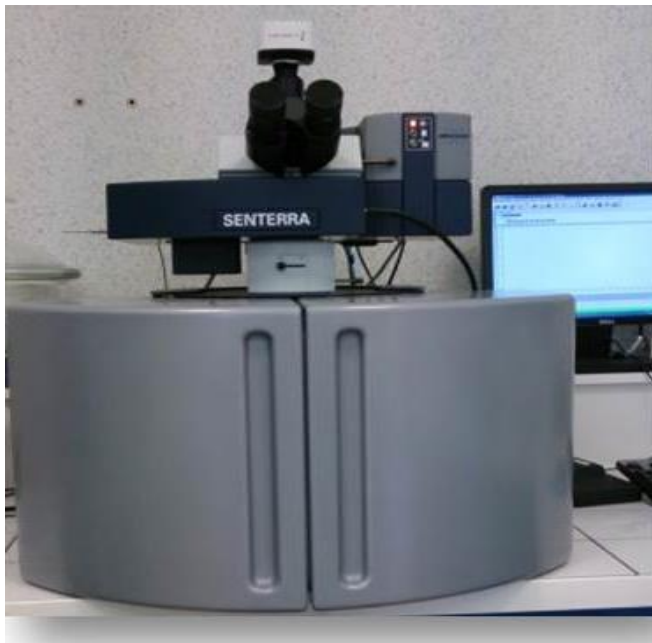
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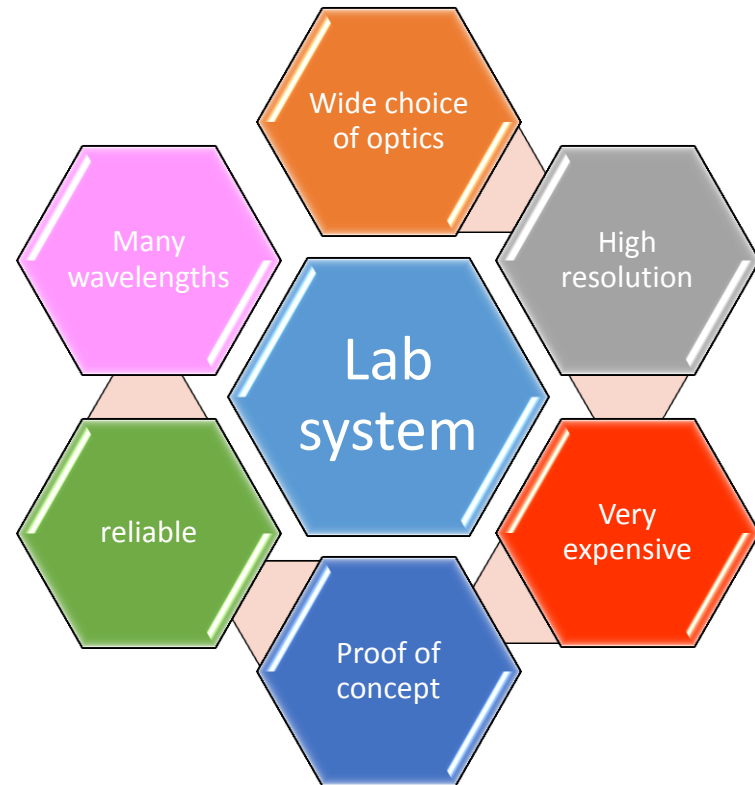
Analytical composition of the analyzed sample

# Raman spectroscopy: powerful technique

## Lab investigation



Raman SENTERRA from Bruker  
Size: , weight= 80 kg



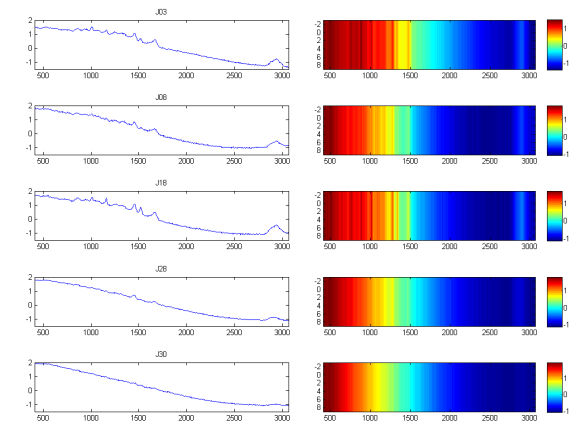
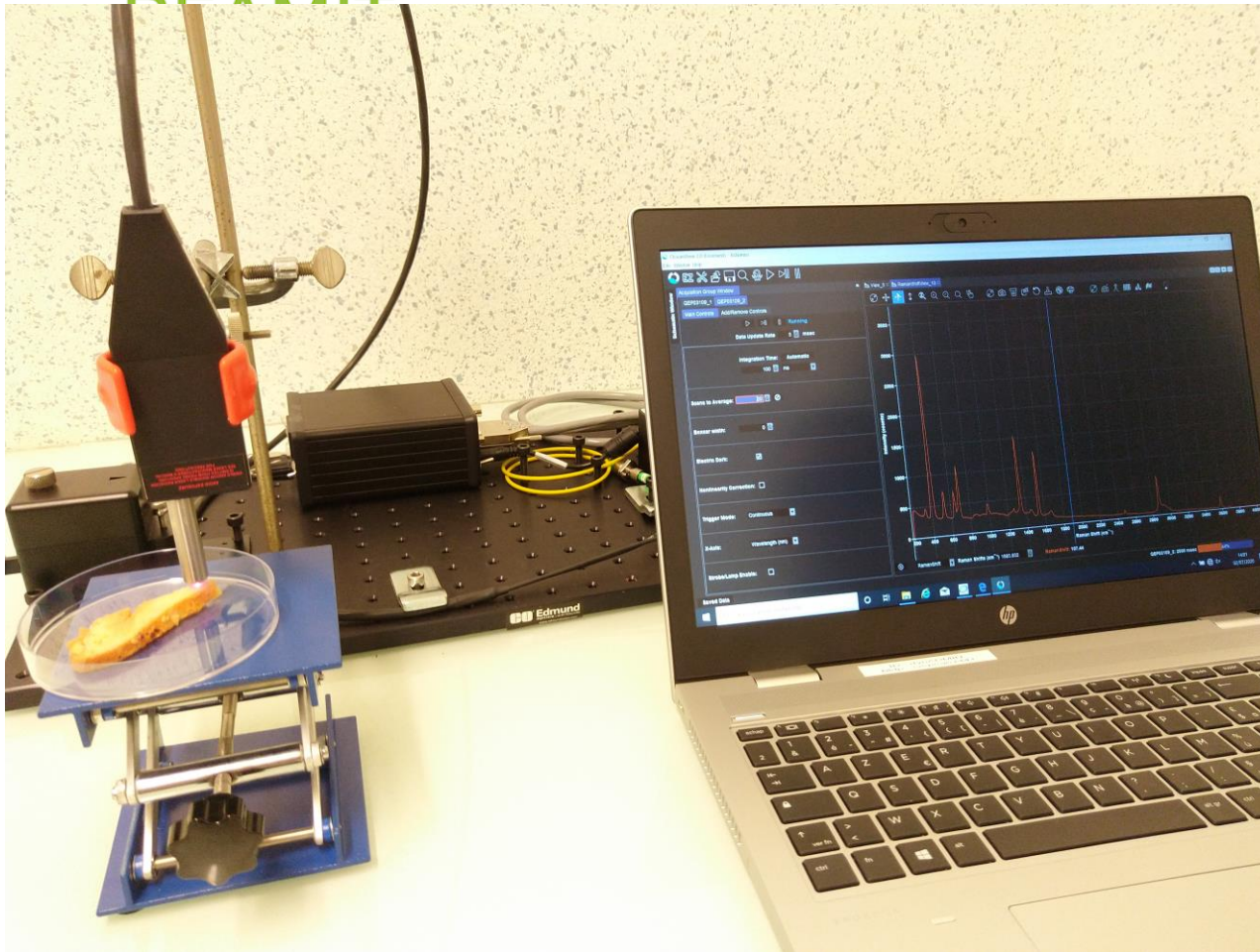
## Raman spectroscopy: powerful technique

### Field investigation



### Challenges for REAMIT project

- Use of portable device
- Database of food samples
  
- Field use but reliability to be determined for food real diagnostics

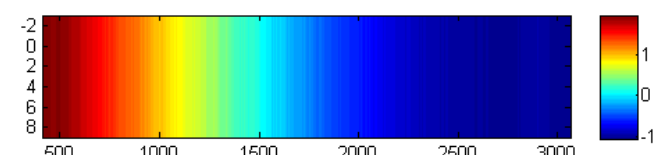
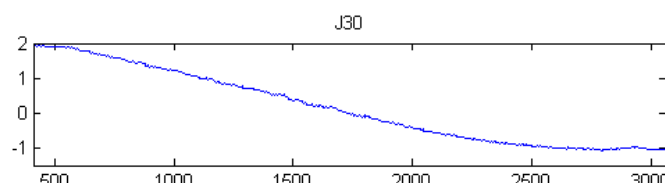
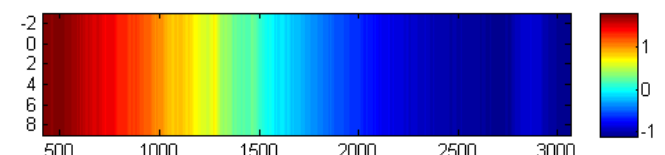
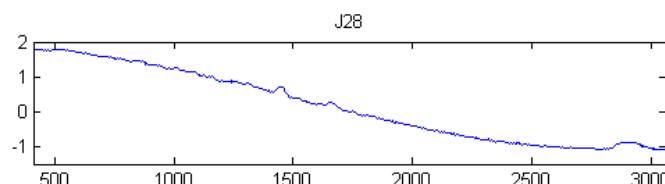
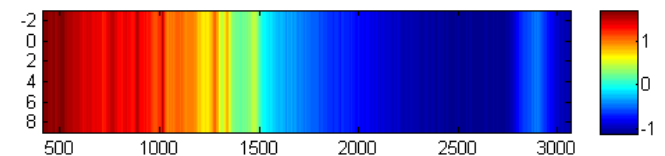
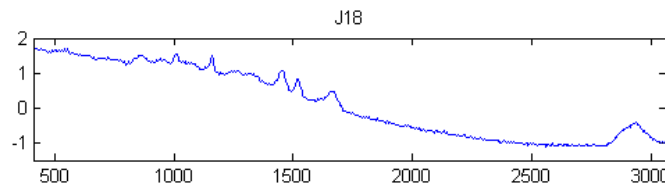
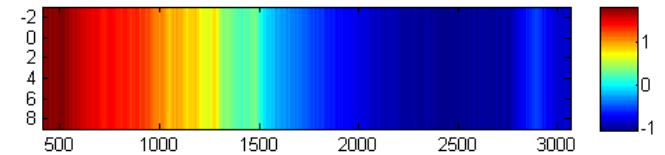
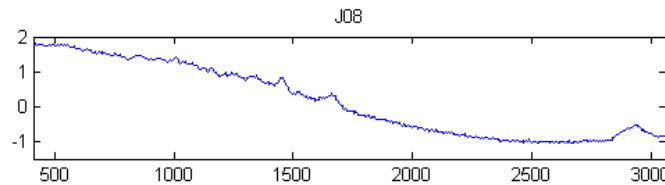
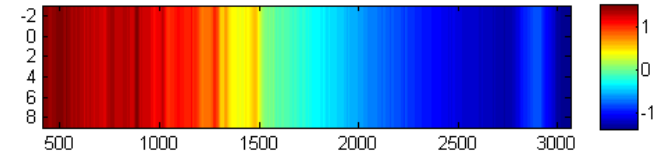
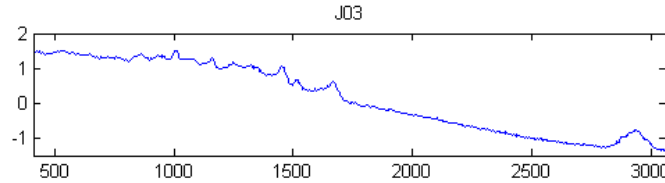
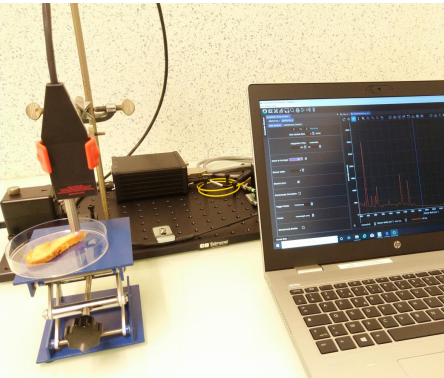


Raman spectra of chicken samples (left side) and 2D plots of spectra showing the Raman shift and the intensity differences between the studied samples (right side)

## North-West Europe

### REAMIT

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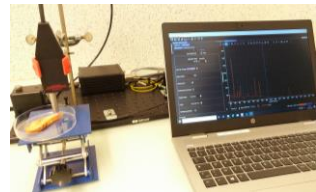


Raman spectra of chicken samples (left side) and 2D plots of spectra showing the Raman shift and the intensity differences between the studied samples (right side)

- ✓ First Run was successfully achieved
- ✓ Raman spectra were recorded on chicken samples during 30 days
- Data analysis models & automatic data transmission is under progress with the corresponding partners
- **Next steps : integration & validation**
- **Final step : testing device in refrigerated truck**
- **Ultimate goal: use in real conditions**



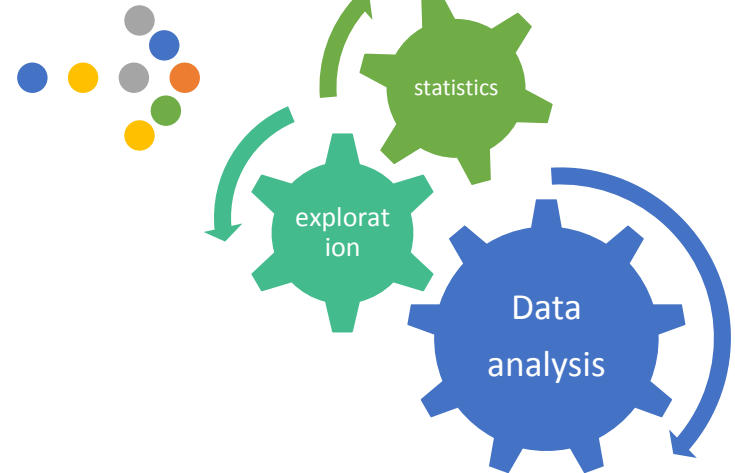
Raman data



Temperature,  
other data



Automatic data transmission



## Support decision

## North-West Europe

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