

# Challenges Implementing INSPIRE coverage data

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# Context



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# Initial workshop

- On 29-30 September 2015, in Barcelona
- Organised by:
  - INSPIRE KEN
    - Knowledge Exchange Network from EuroGeographics
  - INSPIRE Thematic cluster
    - INSPIRE Maintenance and Implementation Framework (MIF)
    - Cluster 3 (RS, GG, OI, EL)
- Objectives:
  - Share experience about implementation of coverage data and services
  - With focus on themes EL (Elevation) and OI (ortho-image)

# Initial workshop



Time	Topic	Presenters
Day 1 morning	Training session about coverage data and services	Alex Dumitru (Jacobs University)
Day 1 afternoon	National experiences transforming EL and OI – ELF activities	NMCAs
Day 2 morning	WCS experiences	MIWP-7, ocean and meteo communities
Day 2 morning	Discussion on open issues	all

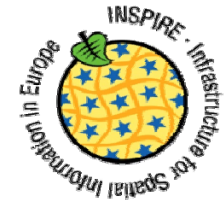




# Following activities

- Webinar on January 2016
  - context: Peter Bauman (Jacobs University) to provide answers to remaining questions
- (continuously updated) list of open issues
  - Capture main conclusions
  - in a common understanding!
- All documents (presentations, videos, minutes) available on

<http://www.eurogeographics.org/content/inspire-ken-29-30-september-2015>



# Following activities

- INSPIRE conference
  - Today presentation
    - **Challenges Implementing INSPIRE coverage data**
    - Overview
    - For coverage “dummies” by coverage dummy!
  - Workshop on Friday 30/09
    - **Implementation and potential of INSPIRE coverage data and CRS**
    - 2 sessions (9h and 11 h)
    - By Jordi Escriu
    - For more detailed information and open discussion
    - With coverage experts!

# Main general learnings



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## From workshop agenda

NMCAs had quite limited experience about coverage data and services

But other communities and experts may help



# From work on the list of open issues

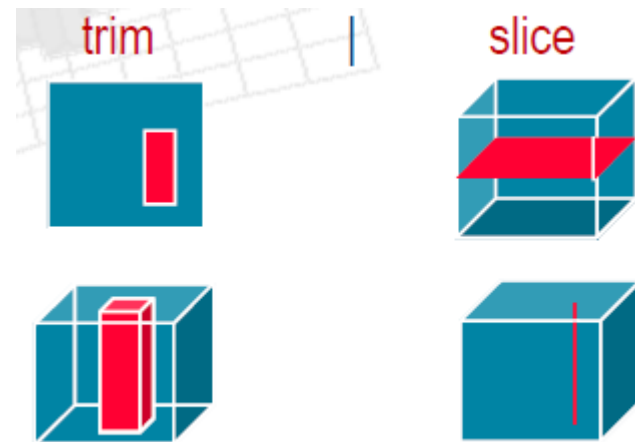
Getting (common) understanding of coverage issues is an iterative process and requires lots of efforts

# From training session

Web Coverage Services are (at least in theory) powerful tools to deliver and better harmonize the data expected by INSPIRE

## Examples of WCS functionalities

- Extraction
- Format conversion
- CRS conversion
- Resampling

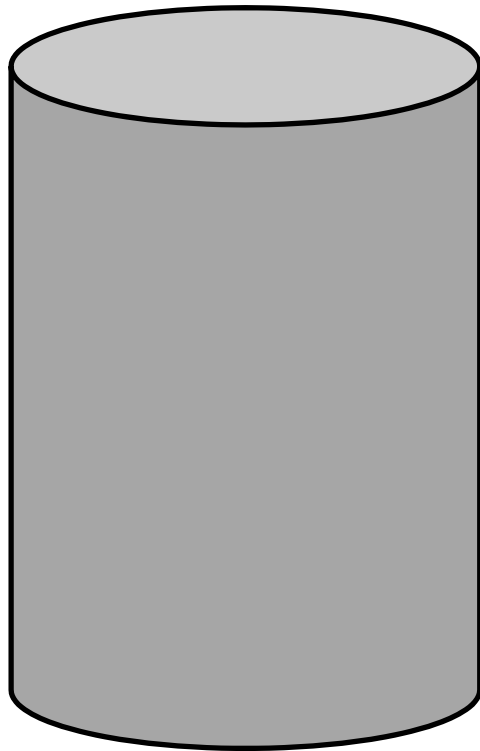


Extraction among space, time series, channels (e.g. RGB)

# From transformation experience on OI and EL

A common issue: how to deal with huge volumes of coverage data. A typical issue for data producers is to decide on the approach to provide coverage data of a vast territory in a digestible way for the download services.

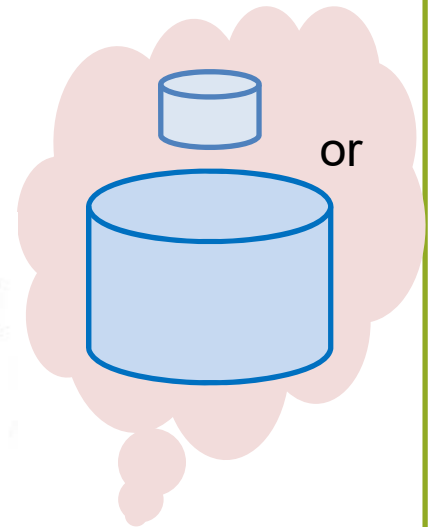
# From transformation experience on OI and EL



Server side:  
big data

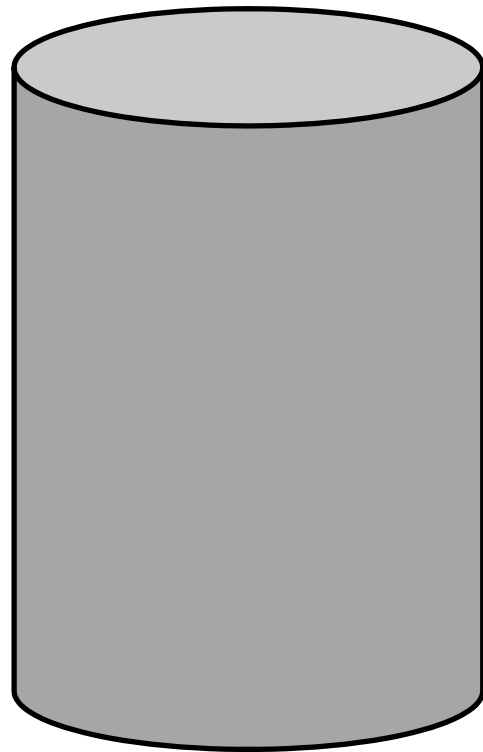


(small) Internet  
pipe

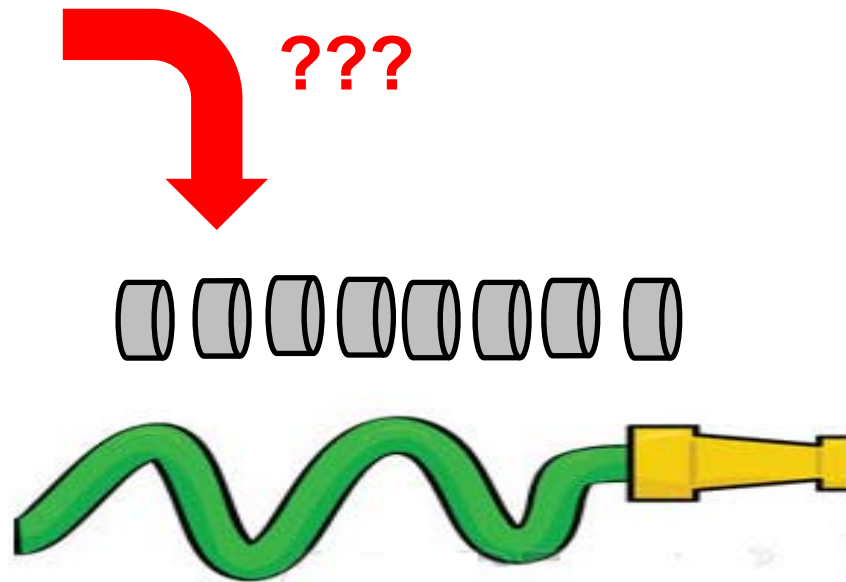


Client side:  
user requests  
(various  
sizes)

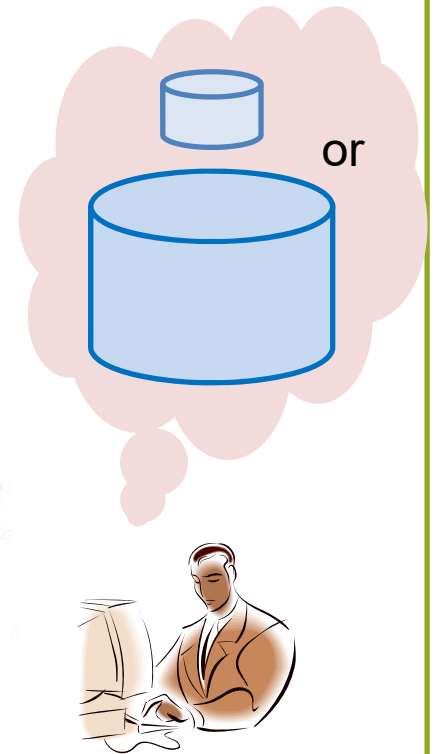
# From transformation experience on OI and EL



Server side:  
big data

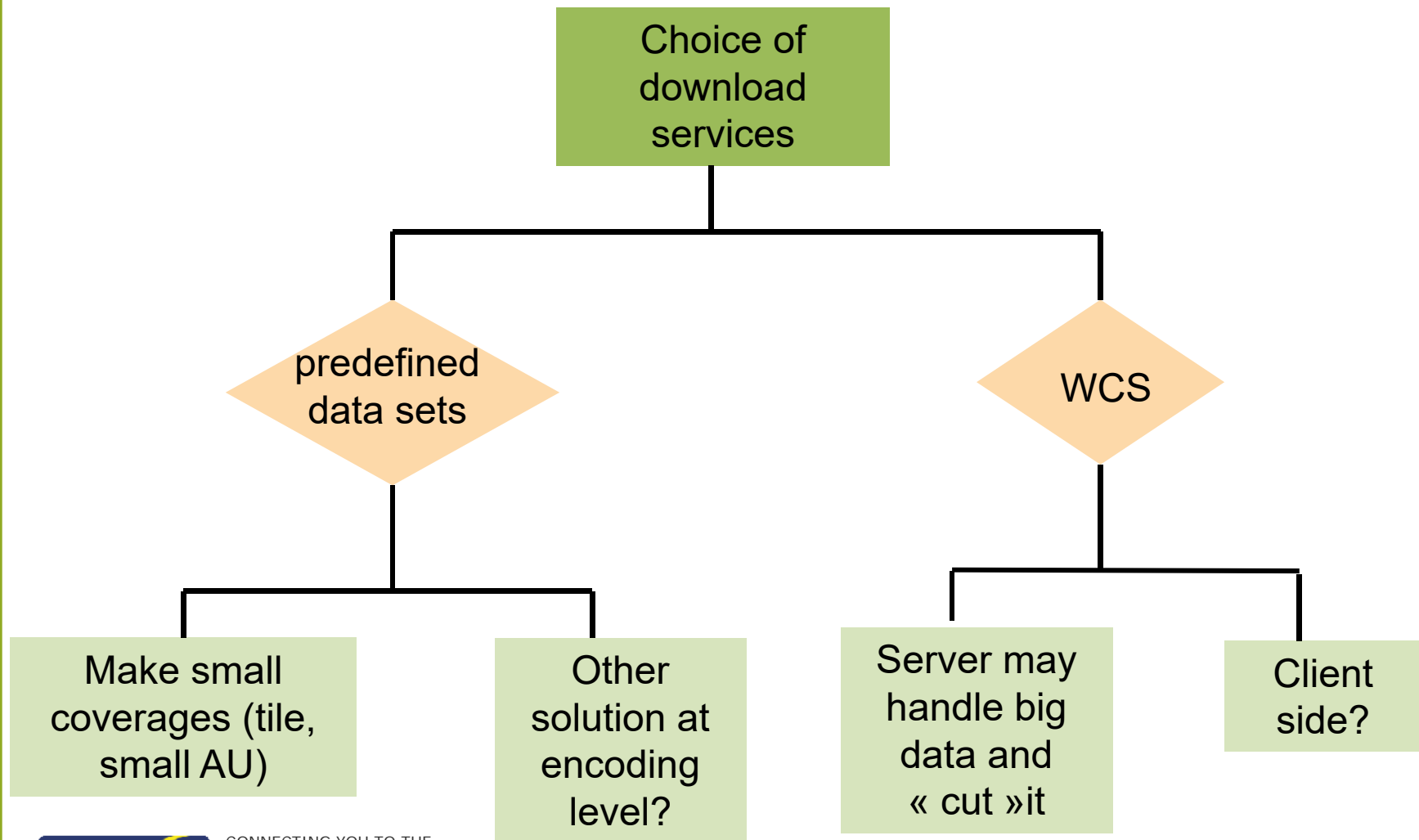


(small) Internet  
pipe



Client side:  
user requests  
(various  
sizes)

# From transformation experience on OI and EL



# From WCS presentations

Get better understanding of MIWP-7 work:

- WCS standard proposes various functionalities, some mandatory, some optional
- Decide on the functionalities to be included in the IR about download network services by WCS
  - Check if implementation solutions (tools) exist

# Personal learnings

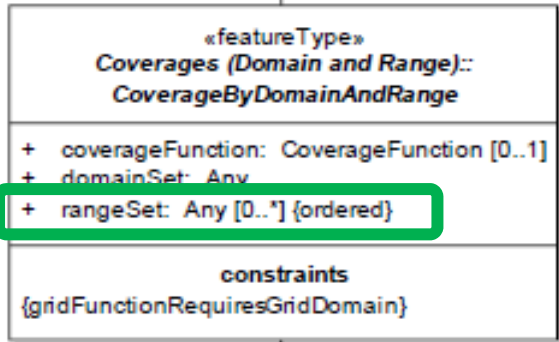


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# Practical conclusion

## What about data harmonisation?



218	225	230	233	232	226	220	218	217
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Real data to be provided in image format (recommended option)

Coverage touch = « metadata » to be provided in GMLCov

# Practical conclusion

## The 3 steps of INSPIRE coverage implementation

Provide the coverage touch  
(filling INSPIRE coverage model)

Harmonise data  
(range set)

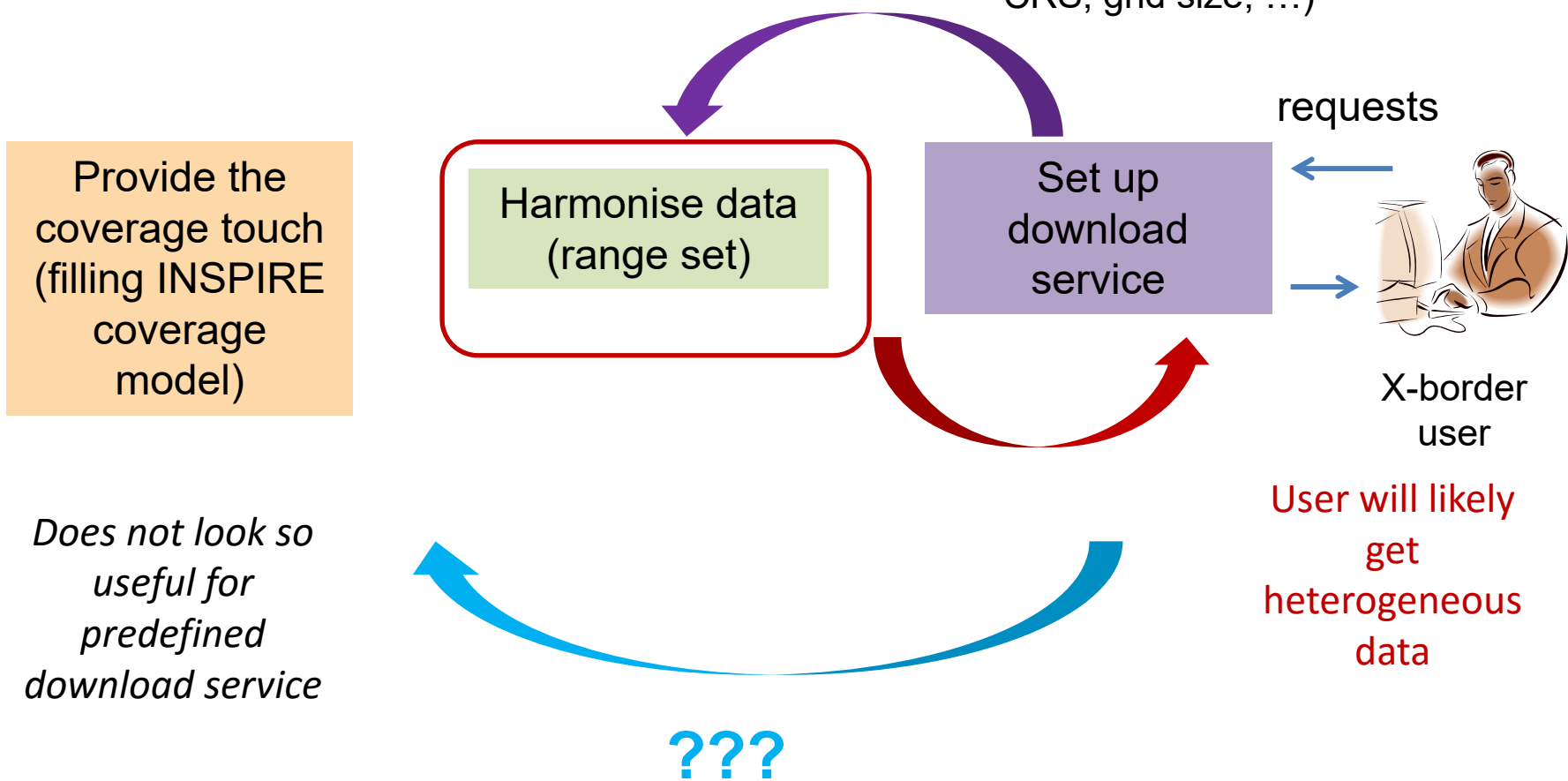
Set up download service

*INSPIRE coverage specifications are quite flexible: no constraints on grid size, several CRS allowed, ...*

# Practical conclusion

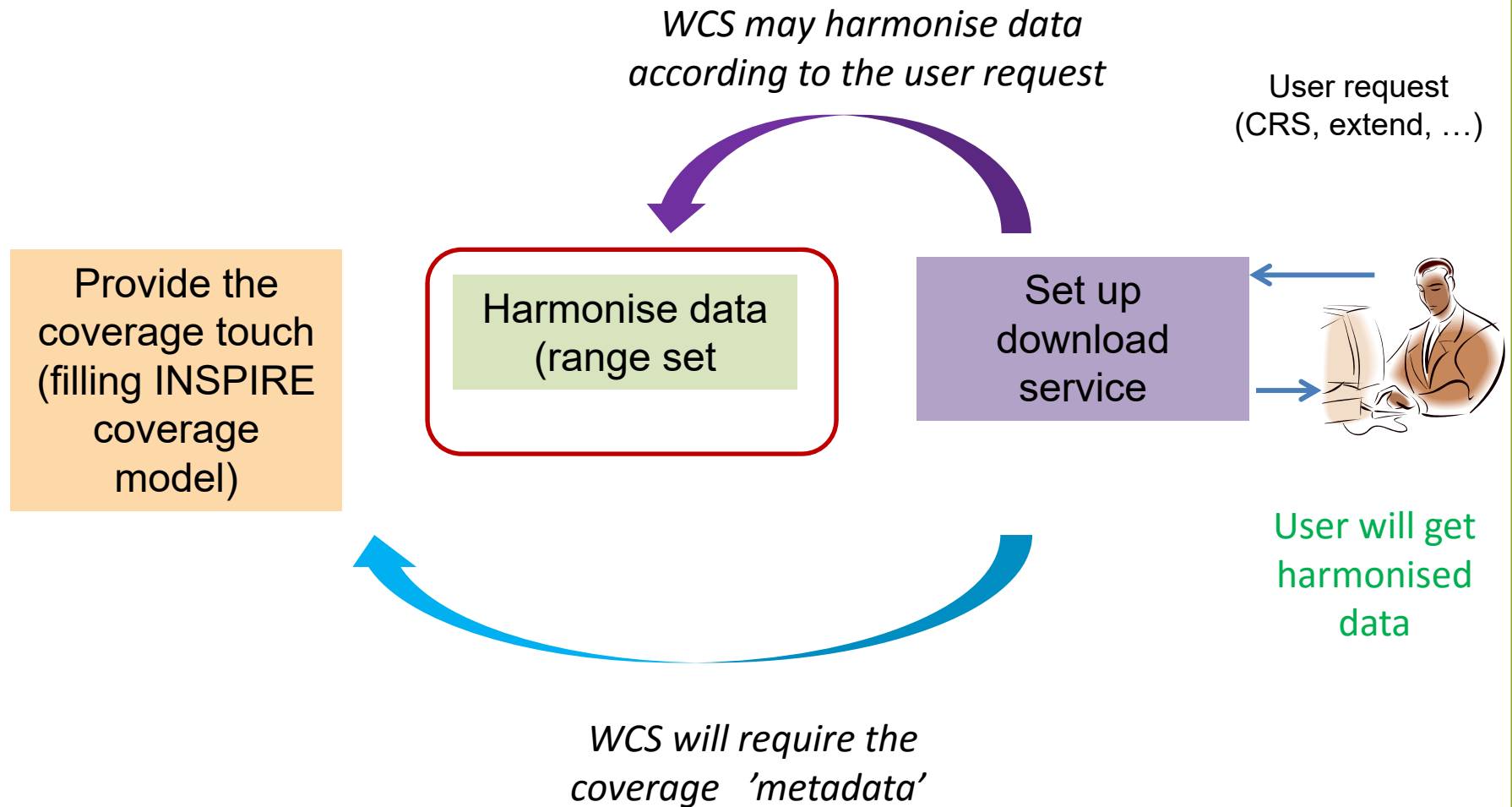
## Option 1 : predefined data sets

Predefined data sets  
(with various options on  
CRS, grid size, ...)



# Practical conclusion

## Option 1 : Web Coverage Service



# Practical conclusion

INSPIRE coverage data specifications bring real value to users only if  
WCS is used for download service  
=> We should choose the WCS option



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# Practical conclusion

Unfortunately, some legal uncertainty:

- Implementing Rule about WCS download services not yet ready
  - Possible evolution from GMLCOV to CIS1.1

We should wait!

Dead-line for EL and OI is only in 2020.



# What about future?

- These conclusions were proposed to IGN (and accepted) by end 2015
- But likely situation has evolved

- Progress in MIWP-7?
- End of waiting phase?



*More detailed news expected from  
Friday 30/09/2016 workshop*



INSPIRE EL



INSPIRE OI