The EU weather value chain - past, current and future perspectives

Dr. K.G.Gutbrod [1 2]) / S.Lehmann [2])
PRIMET [1]) , meteoblue AG [2])

Photography encouraged

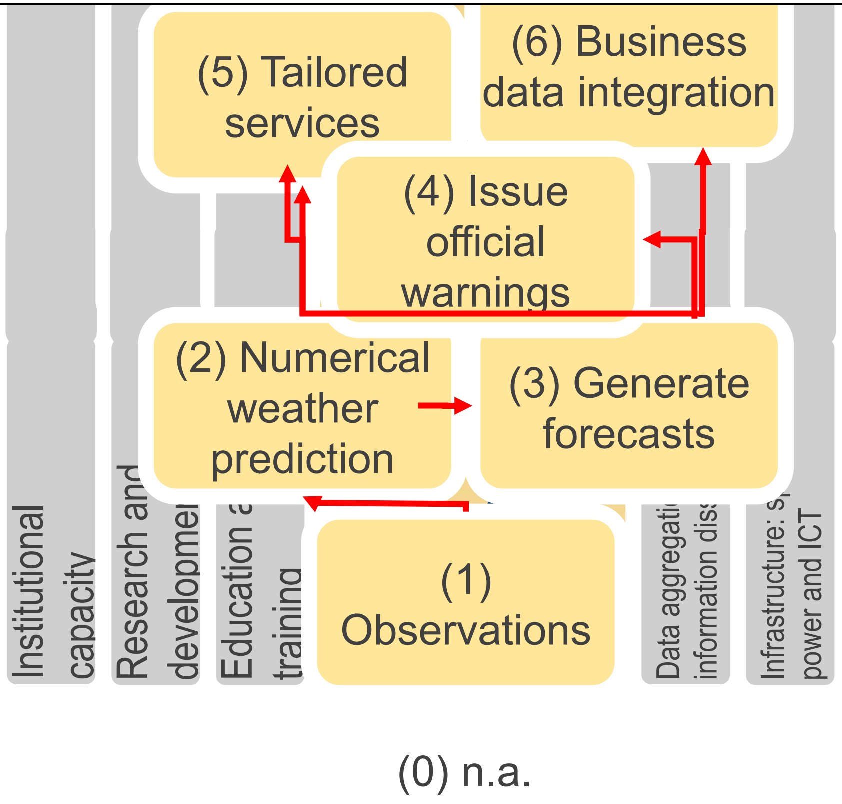
Session “Developing the weather services value chain to serve society better”

EMS, 2021-09-10 11:00-15:30

Overview

2. Structure of national markets : value chain models

Step	Full range value chain[1])	Investment (Mill. €)
Business integration (5)	Business data integration (energy, insurance, air traffic, climate…) **(5)**	**1-1000**
Products (Mass distribution) **(4)**	Official warnings Websites and Apps Data APIs **(4)**	**1-100**
Data transfer Data processing and transfer **(3)**	Numerical Weather Prediction, Measurement Data QC and storage **(3)**	**10-100**
Networks operation Measurements & Observations **(2)**	Measurements through Stations, Bouys, Radio-Soundings Observations through Radar, Satellite, Investment, Maintenance and Upgrade **(2)**	**10-1000**
Instrument Supply (1)	Sensors, Networks, Transmitters, Computers **(1)**	**1-100**



[1]) Source: own research, Schludecker .
Contains All value creation steps

[2]) Source: The Power of Partnership: Public and Private Engagement in Hydromet Services. / xiii, © 2019 The World Bank.
Does not include Instrumentation; Official warnings not applicable to private sector.

1. Methodology – Budget and Employment 2010-2019

KPI used for selection:

1. EU Countries: 7 selected (DE AT CH FR GB NL ES)
   Data available on NHMS + PSP 2010-2019 — Sources: Various
2. National Weather Services (NHMS):
   Employees, budget, commercial (Sales) — Sources: WMO
3. Private Weather Services (PSP): Companies,
   Employees, Sales — Sources: Publications, Interviews, corporate communication, Market research

Not included: Equipment suppliers, corporate departments (Insurances), niche players

Note: due to time limitations, only employment data will be shown

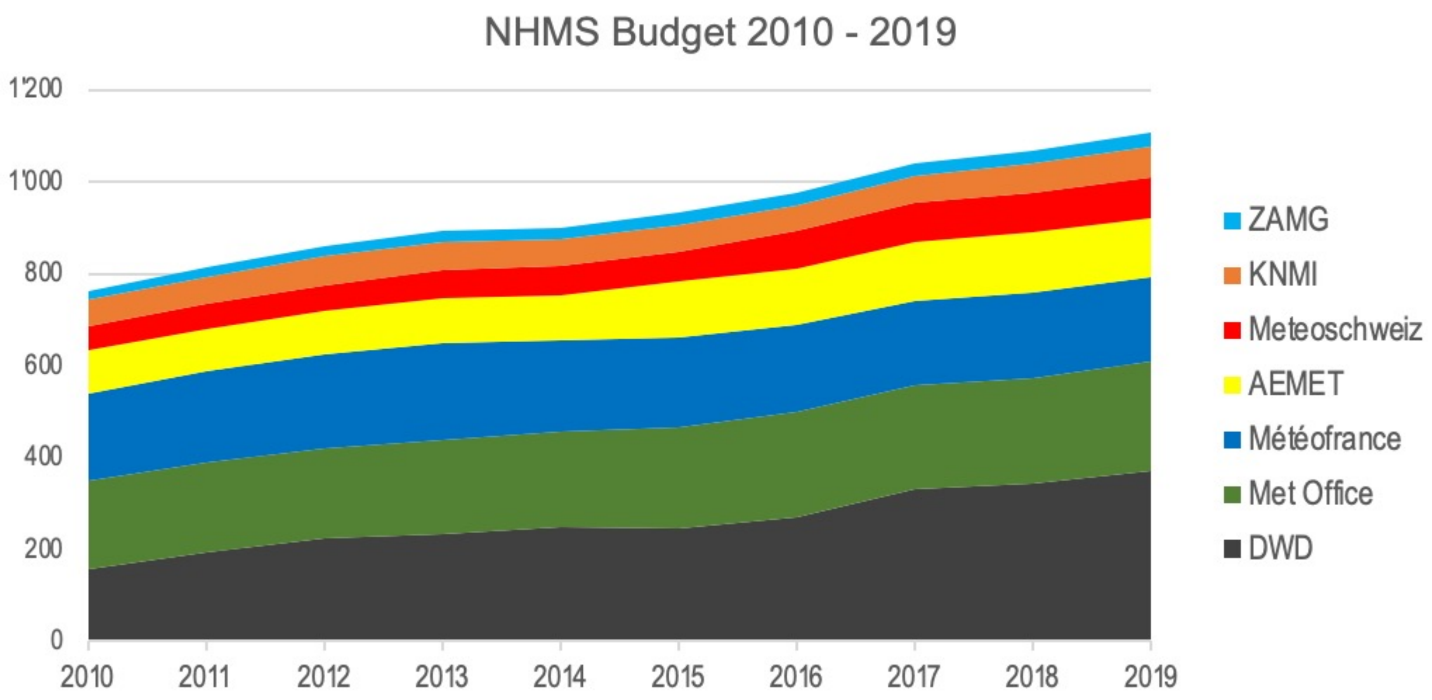
National Hydrometeorological Services (NHMS)
Private Meteorological Services (PSP)

Focus on services: value chain steps 2+4 (1= instruments)

Overview

1. Methodology
2. National services development
3. Private services development
4. Future trends
5. Conclusions and recommendations

2.1 NHMS : budget development 2010-2019



Growth of 45% in 10 years:

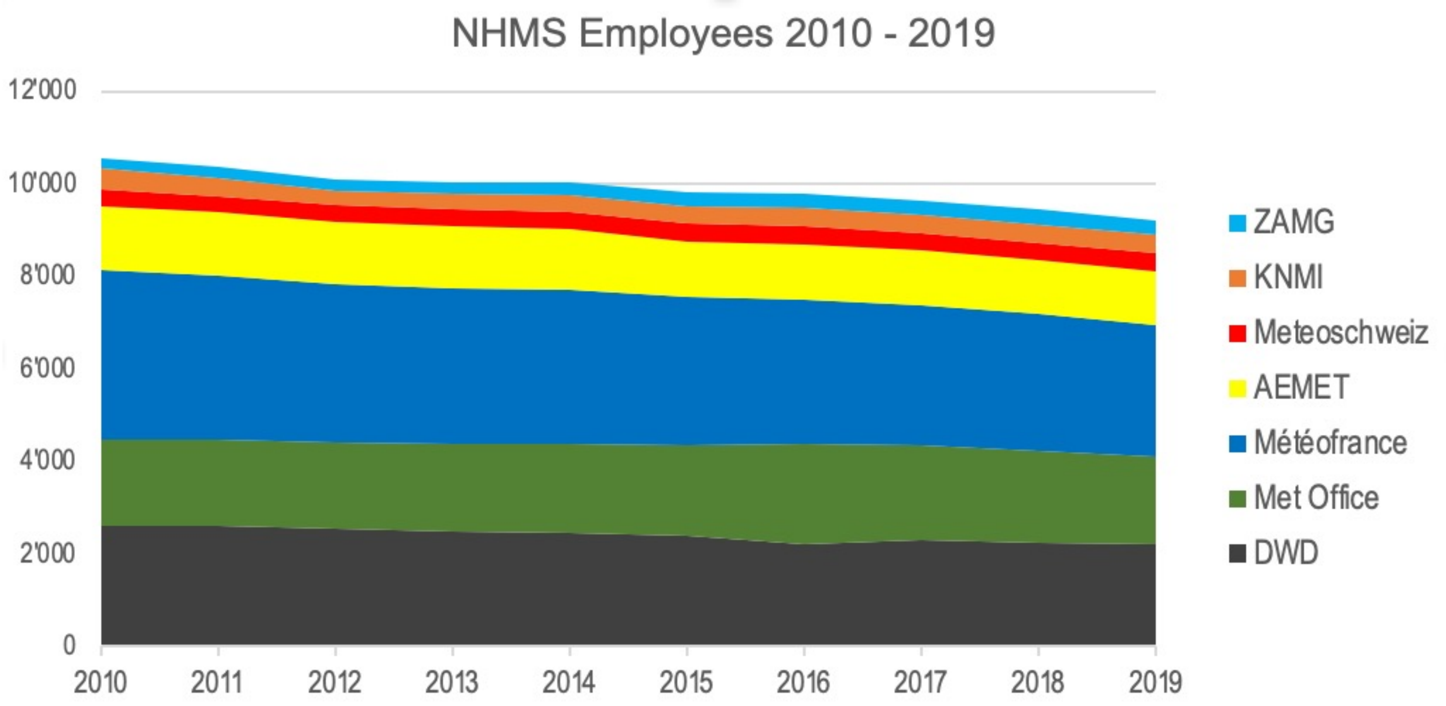
- Growth in DE ES CH
- Stable in AT NL GB
- Decline in FR
- 2.71 - 4.46 €/capita (CH= 10.5 €/capita)

Key drivers:

- ➢ Different policies by country
- ➢ New technologies (e.g. Satellite, Big data)

Budget growth – different country policies, new technology

2.2 NHMS : job development 2010-2019



10-year development:

- Job number declined 12%
- largest decline: FR, DE, ES
- Growth: CH, AT

Key drivers

- ➢ Automation (Stations)
- ➢ Budget reduction (FR)

NHMS employment decline: mainly due to automation

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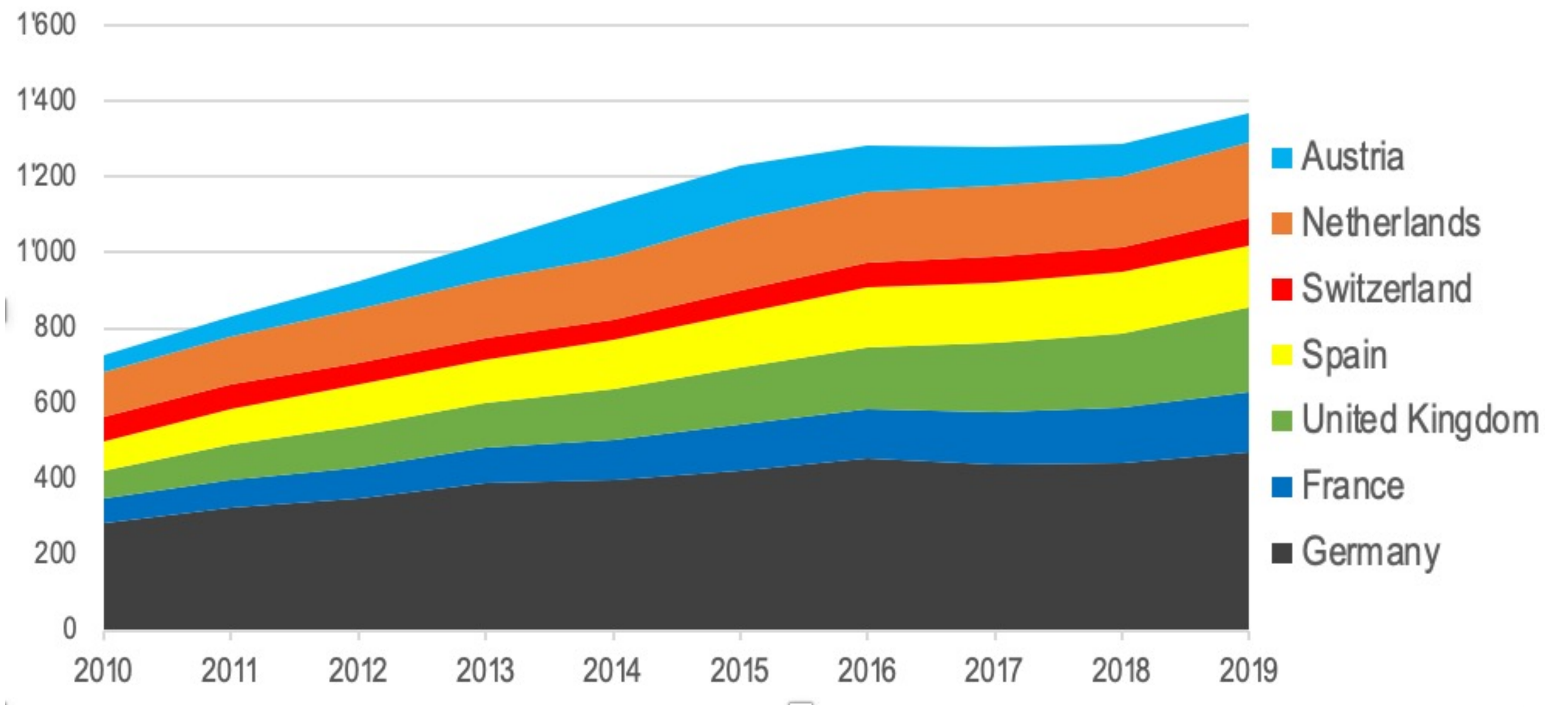
3.1 Private weather services : job creation

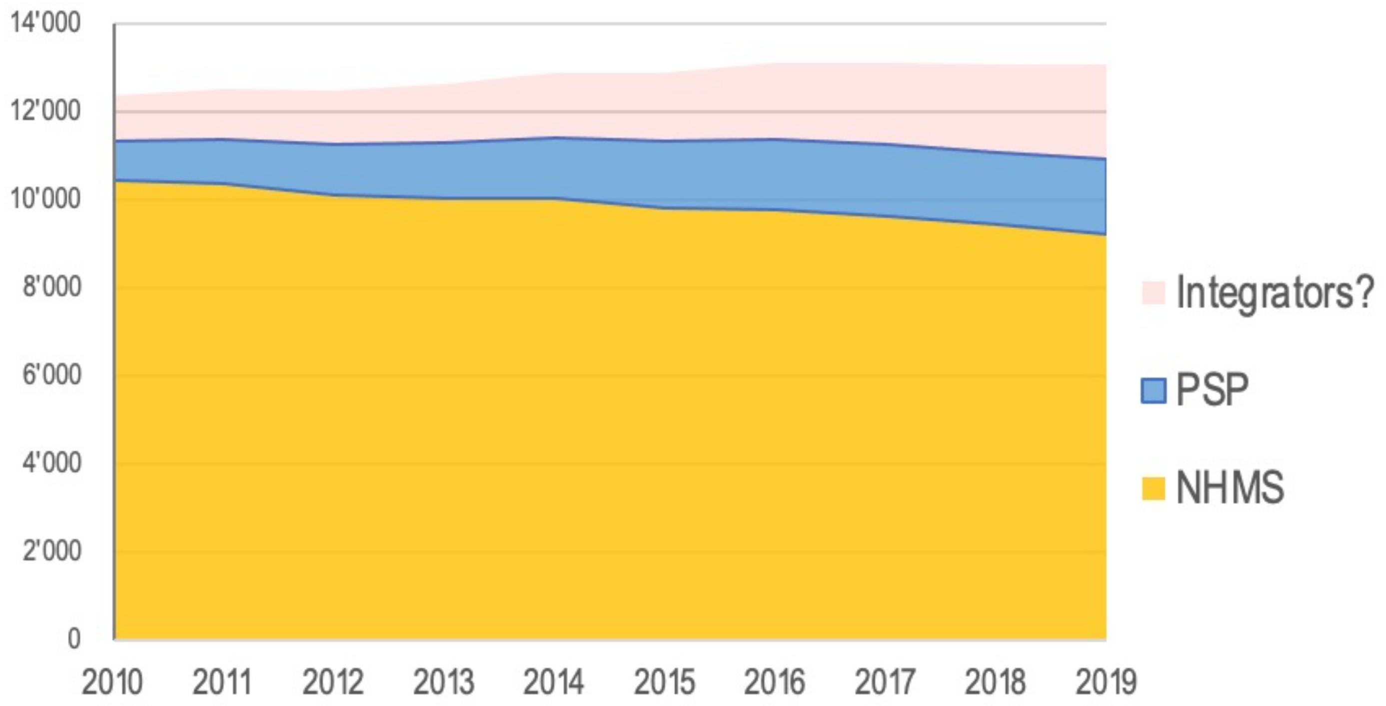


10-year development:

- Job number grew 1.6 x
- Different trends
- Strongest growth: DE, GB
- CH AT with less growth and more restructuring
- Most job growth in new segments (media, energy)
- Not all business shown (integrators missing)

Private weather service create higher value jobs

3.2 National + Private weather services : stable jobs



10-year development:

- Job number declining in NHMS
- Job number increasing in PSP
- Overall development flat
- Not all PSP businesses shown: Integrators ,
  + jobs “inside companies” (e.g. insurances, air traffic) unkown.

Private services largely compensated NHMS job loss

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4.1 Expected job drivers until 2030 - 7 countries

Key driver	Actor	Factor	NHMS	PSP	Others	Sum
Automation	NHMS	-5%	-450	-	-	-450
New services						
• Private Services	PSP growth	1.5x	-	+640		+640
• Integrators	?	?	-	-	?	?
Climate change						
• City climate mitigation	Cities >100'000	1 meteor./city	-	-	460	+ 460
• Companies (CCaSS) (Insurances, Corporations)	Companies	10% of NHMS	-	-	920	+920
• Others (Gov, NGO)	Gov, NGO	5% of NHMS	-	-	460	+460
TOTAL	Combined	expect +20%	-450	+640	1'840	+2'030

[1]) Revenue/Population
[2]) Source : WMO
[3]) Own assessment

Potential for new job creation is 20-30%

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Conclusions	Outlook
• NHMS budget growth 2010-2019 = 12% • NHMS job decline 2010-2019 = -12% • Automation, Policy	➢ Support justification for base services ➢ Policies will define future development = Automation vs. increased base needs
• PSP jobs growth (50%) 2010-2019	➢ Growth will continue, will add new jobs = will improve with "level playing field"

• New markets emerging (e.g. CCaSS,)
• Need better market data
  • Academia – we know (too) little …
  • new technologies (Satellites, IoT…)
  • other countries: differences?
	➢ Expect new job creation (+20% total)
	➢ Integrator market yet unknown
	➢ New job profiles (CCaSS, data analytics)
	➢ Pan European strategy: infrastructure, projects

Weather services will (return to) grow until 2030

References

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- Geonames.org : cities distribution.
- Some internet sources….

- For a copy of this presentation, email karl.gutbrod@meteoblue.com with mail title “The EU weather value chain – perspectives”

