Resilience for Dairy (R4D) has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101000770

Resilience4Dairy: Needs and solutions related to resilience in the European dairy sector

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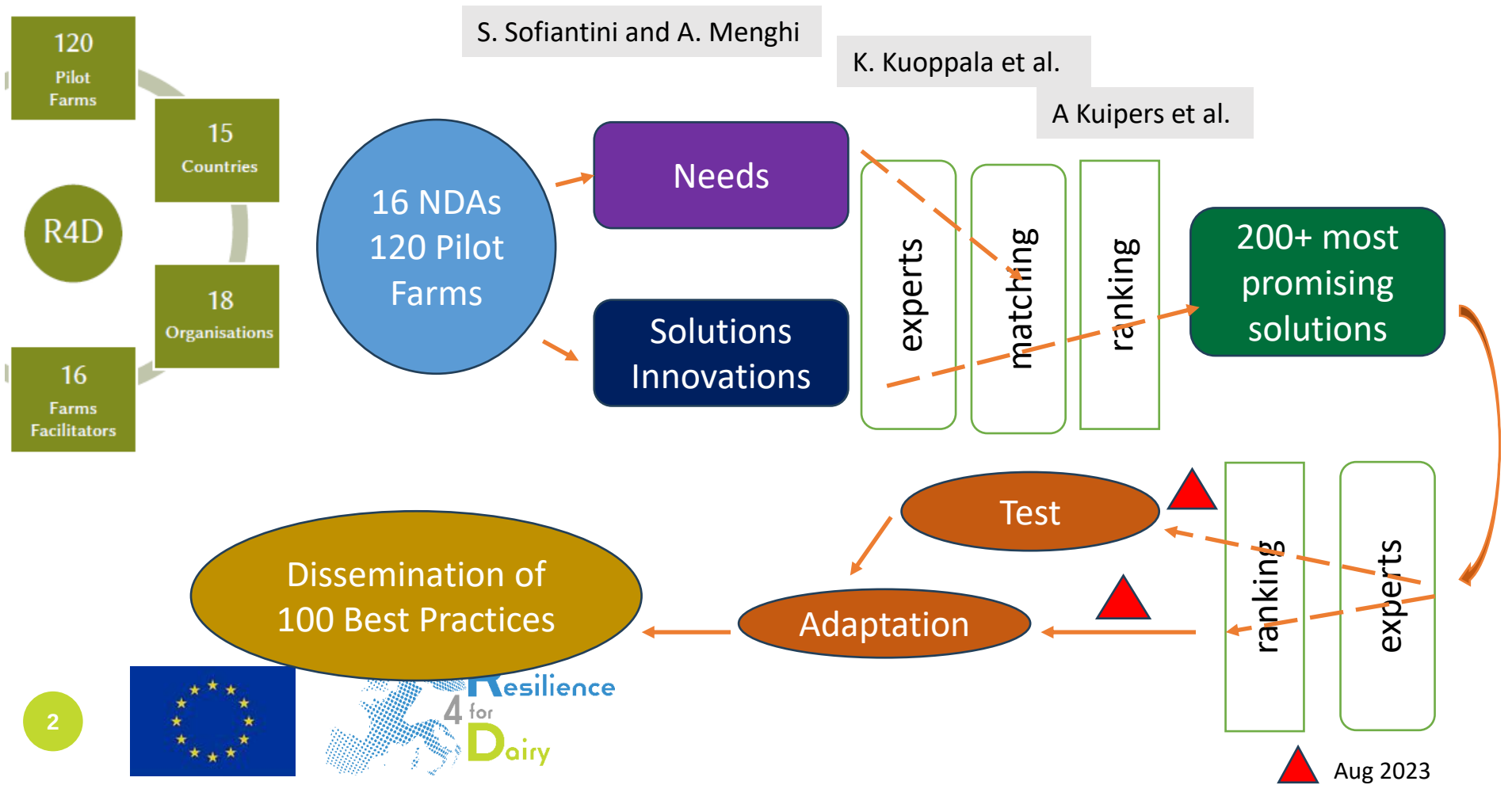
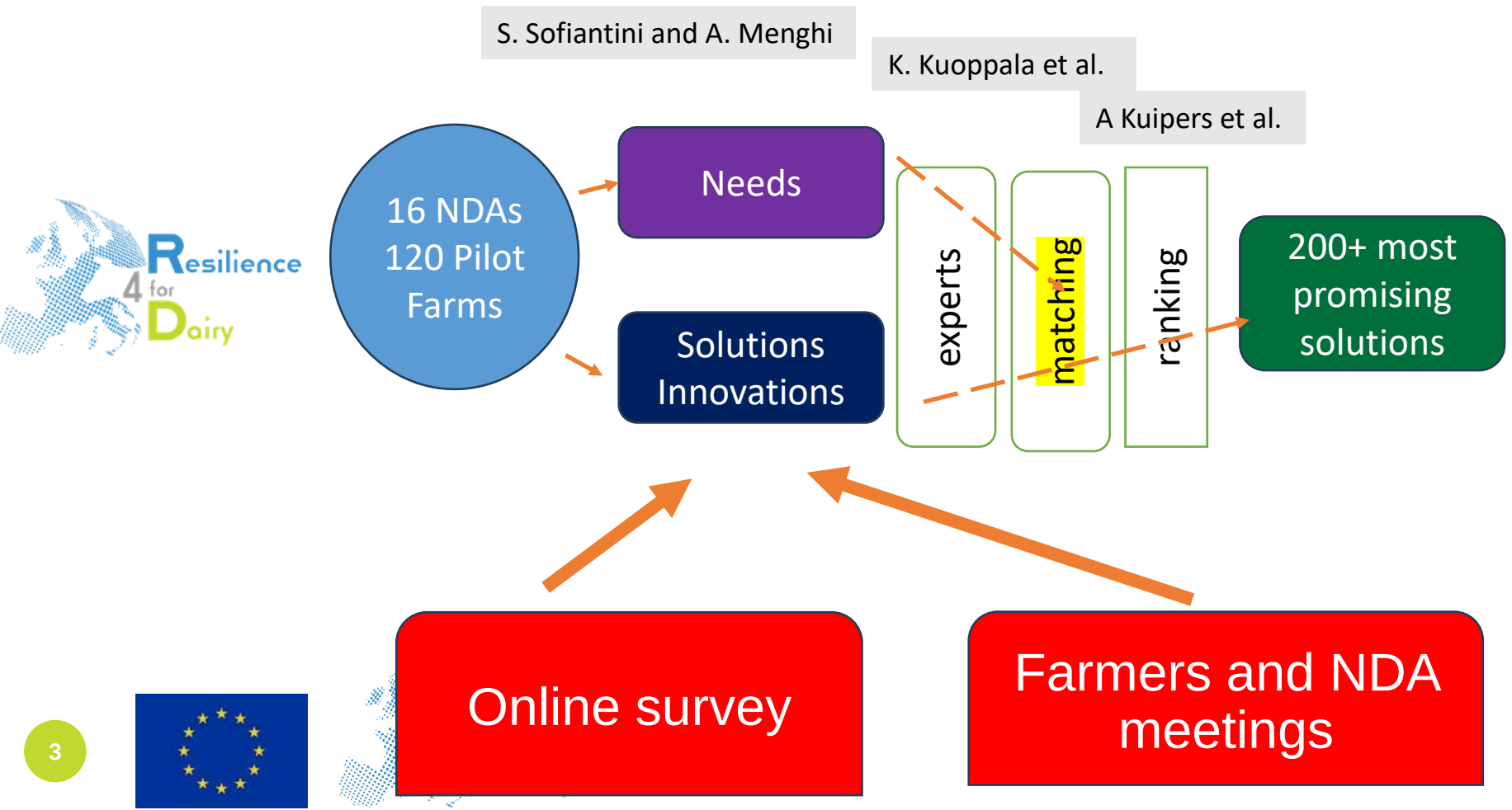
LYON 30/8/2023

Expected outputs of R4D project: *Ready-to-use Best Practices*



Collecting farmers most urgent needs and solutions. Creation of national Workplans



Needs and solutions collected

- Each partner arranged meetings of the National Dairy AKIS (Agricultural Knowledge and Innovation Systems)
  - Discussions about needs and solutions together with dairy farmers and other members in the NDA
  - Results were collected from all project partners
- 16 national workplans:
  - Based on the NDA results + on-line survey
  - Constitute the guidelines for knowledge exchange activities further in this project
  - Only results from NDA meetings are presented here
- Needs and solutions were merged and categorized to 10 knowledge areas + one extra category ”miscellaneous”

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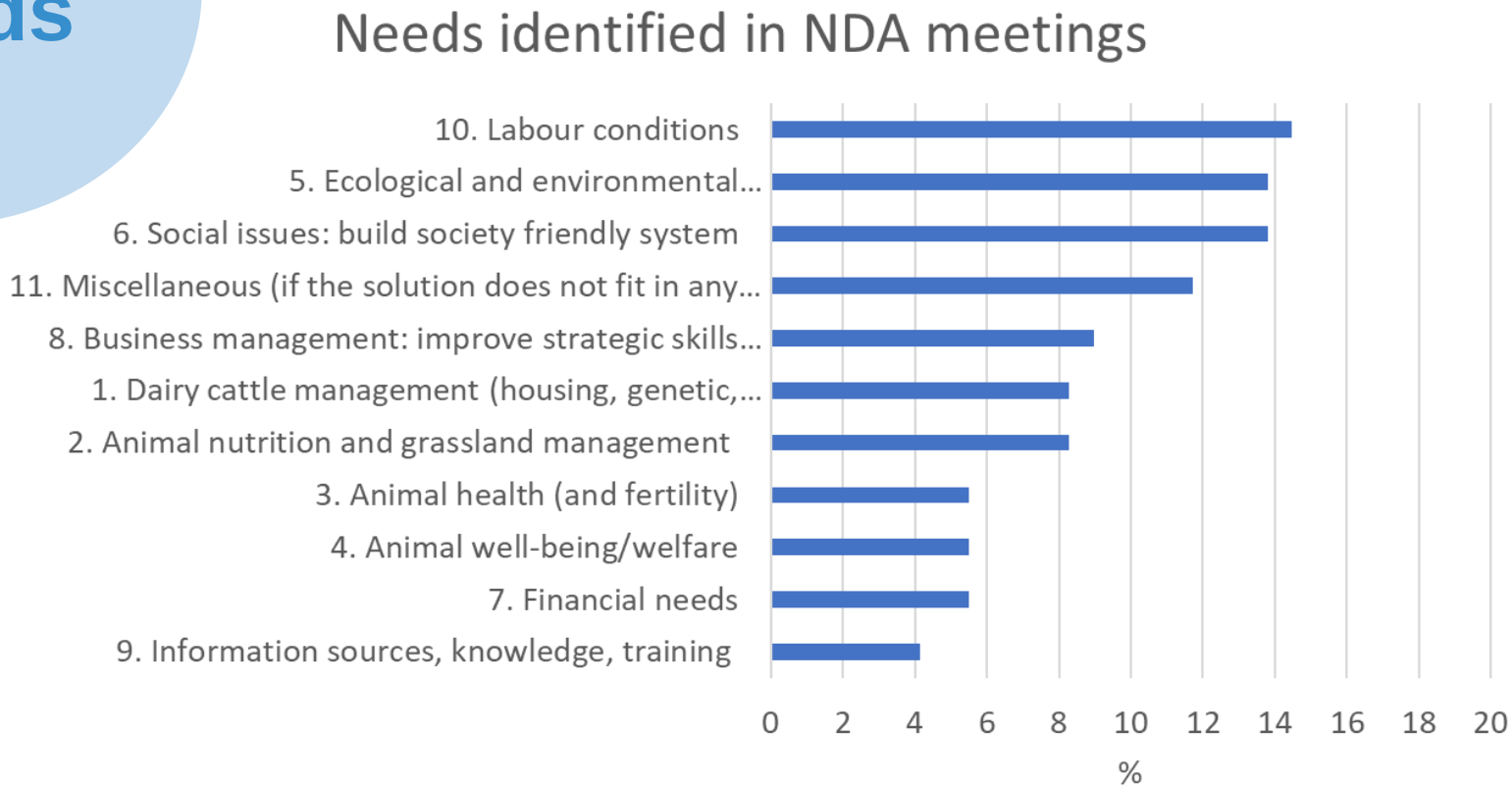
Knowledge areas

1. Dairy cattle management (housing, genetics, feeding system, manure management…)
2. Animal nutrition and grassland management
3. Animal health (and fertility)
4. Animal well-being/welfare
5. Ecological and environmental footprint/mitigation of climate change/resource efficiency
6. Social issues: building of society friendly systems
7. Financial issues
8. Business management: improving strategic skills and building robust business models
9. Information sources, knowledge exchange, training
10. Labour conditions
11. Miscellaneous (if the solution does not fit in any of the previous categories)

Needs



Most often mentioned: Labour conditions, environmental and social issues

Needs in detail 1

10 Labour conditions

- Well-being of farmers
  - work-life balance
  - mental health
  - social relationships, partnership relations
  - economy
  - family and generations
- Farmers' entrepreneurship
  - skills as a manager, work organisation
- Cooperation with other farmers
  - share tools, technologies and workload
  - peer group support

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Needs in detail 2

5 Ecological and environmental footprint/mitigation of climate change/inputs efficiency

- Mitigation practices
- Ecological and environmental footprint calcultators
- Adaptation to climate change and extreme weather events
  - Soil, biodiversity, forage production, feeding
- Efficiency of nitrogen and energy use
- Renewable energy sources
- Water quality

Photo: Kaisa Kuoppala, Luke

Needs in detail 3

6 Social issues: build society friendly system

- Society friendly system
- Transparency of production
- Communication, collaboration and connection
- Public education
- Reducing use of antibiotics and medical drugs

Solutions

Most often mentioned: Animal nutrition, environment and dairy cattle management

Solutions in detail 1

2 Animal nutrition and grassland management

- Feeding
  - Protein self-sufficiency
  - Optimization/reducing of protein feeding
  - Novel feeds
- Grass/forage
  - Forage quality, analyzing, plate measuring, drones
  - Reduce silage storage losses
- Grazing
  - Improving grazing management
  - New grazing systems
- Other
  - Slurry technologies, agroforestry

Photo: Lilli Frondelius, Luke

Solutions in detail 2

5 Ecological and environmental footprint/mitigation of climate change/inputs efficiency

- Calculators
  - Farm level environmental footprint calculator
  - Carbon sequestration calculator
- Manure management and application technologies
- Renewable energy
  - Biogas plants, wind, solar energy in farms
- Water
  - Efficient use in barn (milk cooling, floor cleaning)
  - Purifying waste water
- Biodiversity

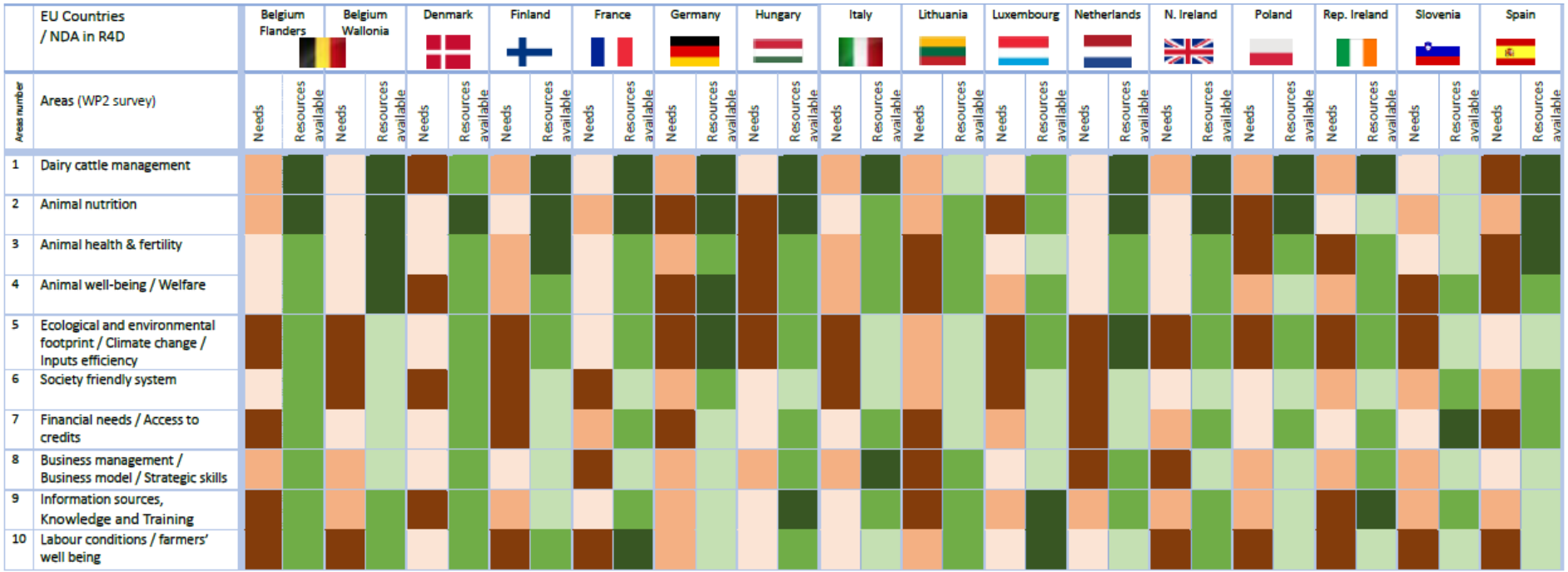

Photo: Kaisa Kuoppala, Luke

Solutions in detail 3

1 Dairy cattle management (housing, genetic, feeding system, manure management,…)

- Breeding and genetics
  - Genomic testing
  - Cross breeding
  - Use of sexed semen
  - Embryo transfer
- Milking
  - Combine AMS and grazing
  - Milk quality control
- Others
  - Automatisation of feeding
  - Pedometer, sensors
  - Collecting own data

Creating workplans by comparing needs and resources by country



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Conclusion

- **The EU dairy industry faces many challenges**
  - Multiple needs within the farms and other stakeholders were identified
  - Several solutions were also identified to improve the resilience of the dairy sector
- **The most scored Need and Solution was "Ecological and environmental footprint/mitigation of climate change/inputs efficiency"**
  - The reasons for that are probably two-fold: the pressure from the society as well as the dependency of individual farm success on local weather and biotic resources.
- **The second highest topic was related to financial and labour issues**
  - They are in the core of running the dairy businesses at long perspective
- **Practical management issues related to dairy cow care, nutrition and feed production were emphasized as Solutions**, which is logical as they are actions that can be controlled at farm level
- **Animal welfare scored high in the On-line survey, but was not emphasized in the NDA outputs**, which could mean that although an important topic regarding the image of the dairy chain, it is not experienced as a matter limiting the resilience of dairy farms

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Thank you!

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