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A Unified perspective on ODD and Scenarios...

And some potentially relevant questions

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CONCEPT

ODD

Current definition in literature

”Operating conditions under which a given driving automation system or feature thereof is specifically designed to function, including, but not limited to, environmental, geographical, and time-of-day restrictions, and/or the requisite presence or absence of certain track or roadway characteristics.”

SAE J3016

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System/feature specific

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System/feature specific

- Does it make sense to talk about generalistic ODDs? Is it (should it be) within our scope?

V&V

ODD Scope

Limit the operational needs of the system

ODD Goal:

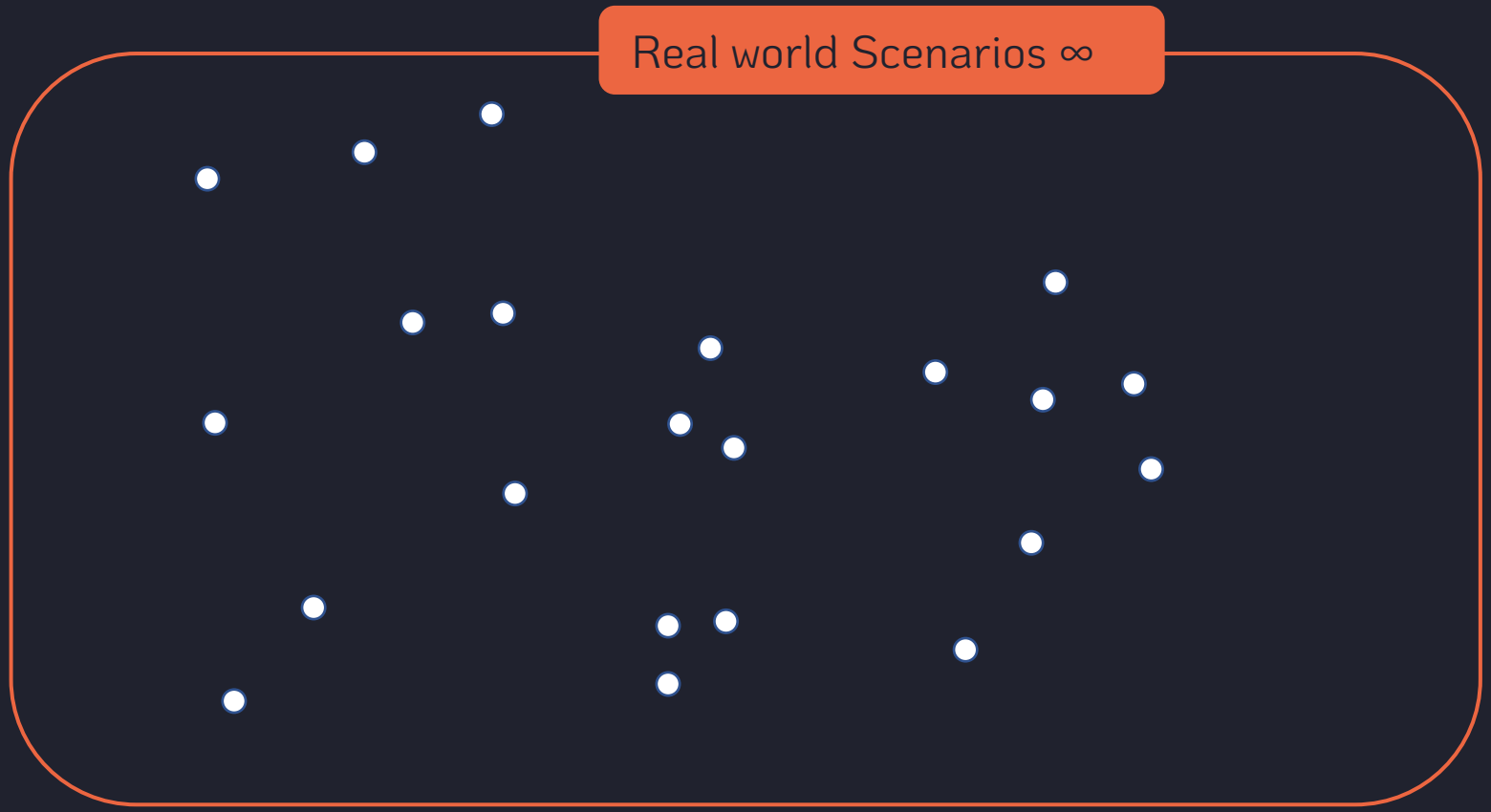
- Confine the content of HARA and subsequently the scope of the verification

A Good ODD will:

- Support demonstrating the completeness of HARA
- Limit required verification

VENN DIAGRAM

Adapted from: de Gelder, E., & den Camp, O. (2019). *Scenario classes for the assessment of automated vehicles*.



Specific Scenarios

The set of all possible scenarios

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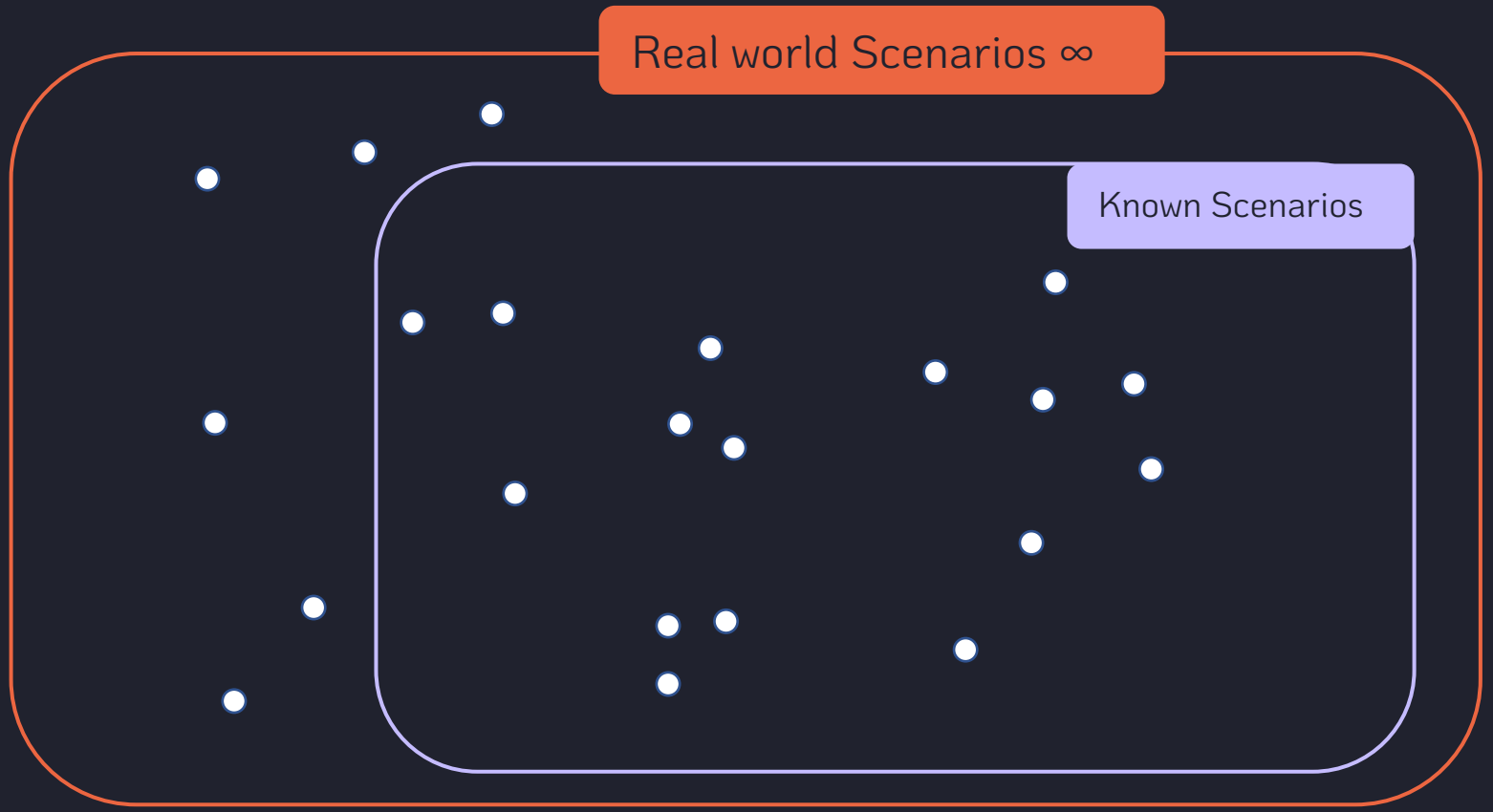

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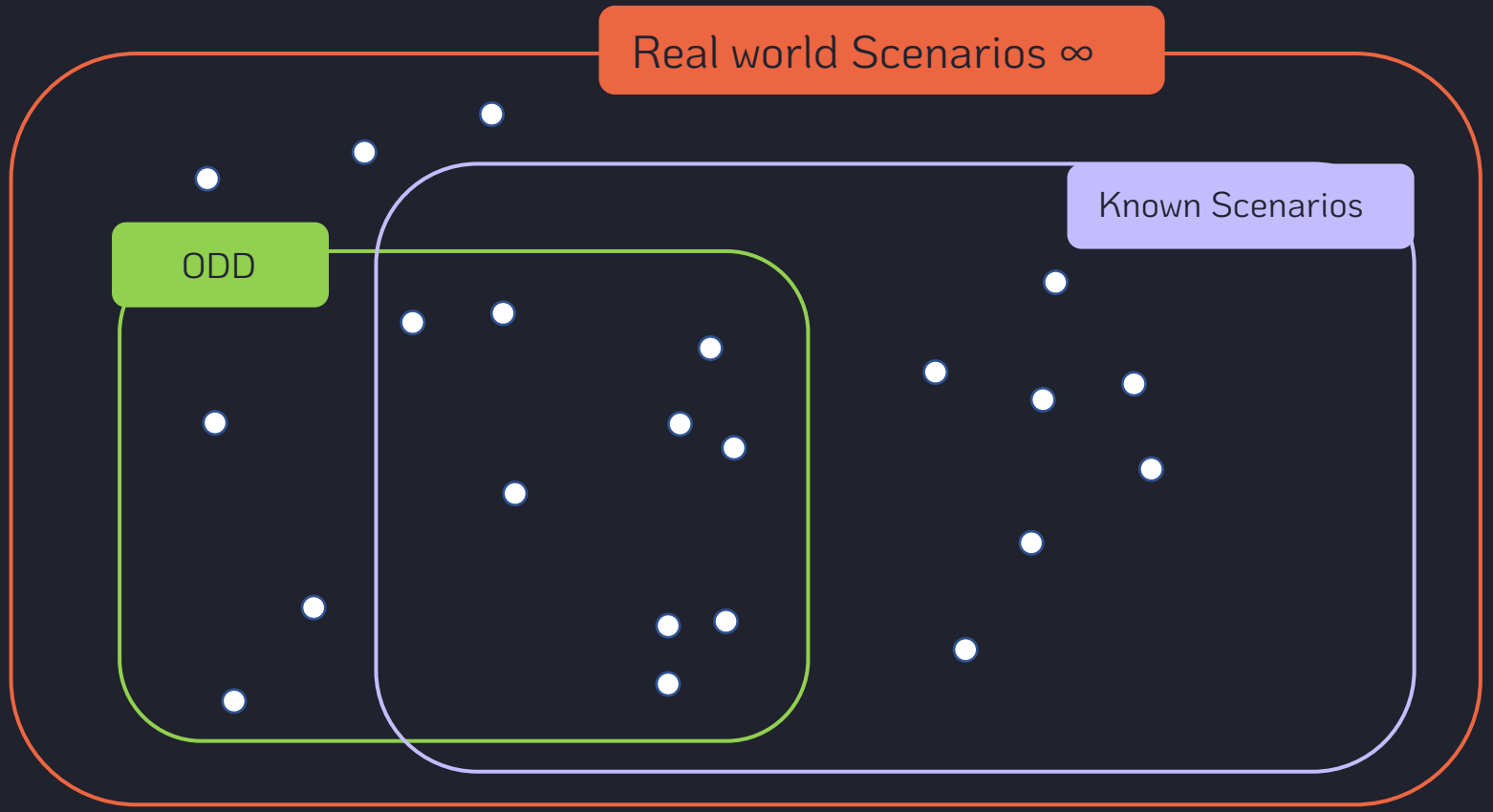

Specific Scenarios

The set of all possible scenarios

The set of identified/known/recorded scenarios

The set of scenarios falling within ODD

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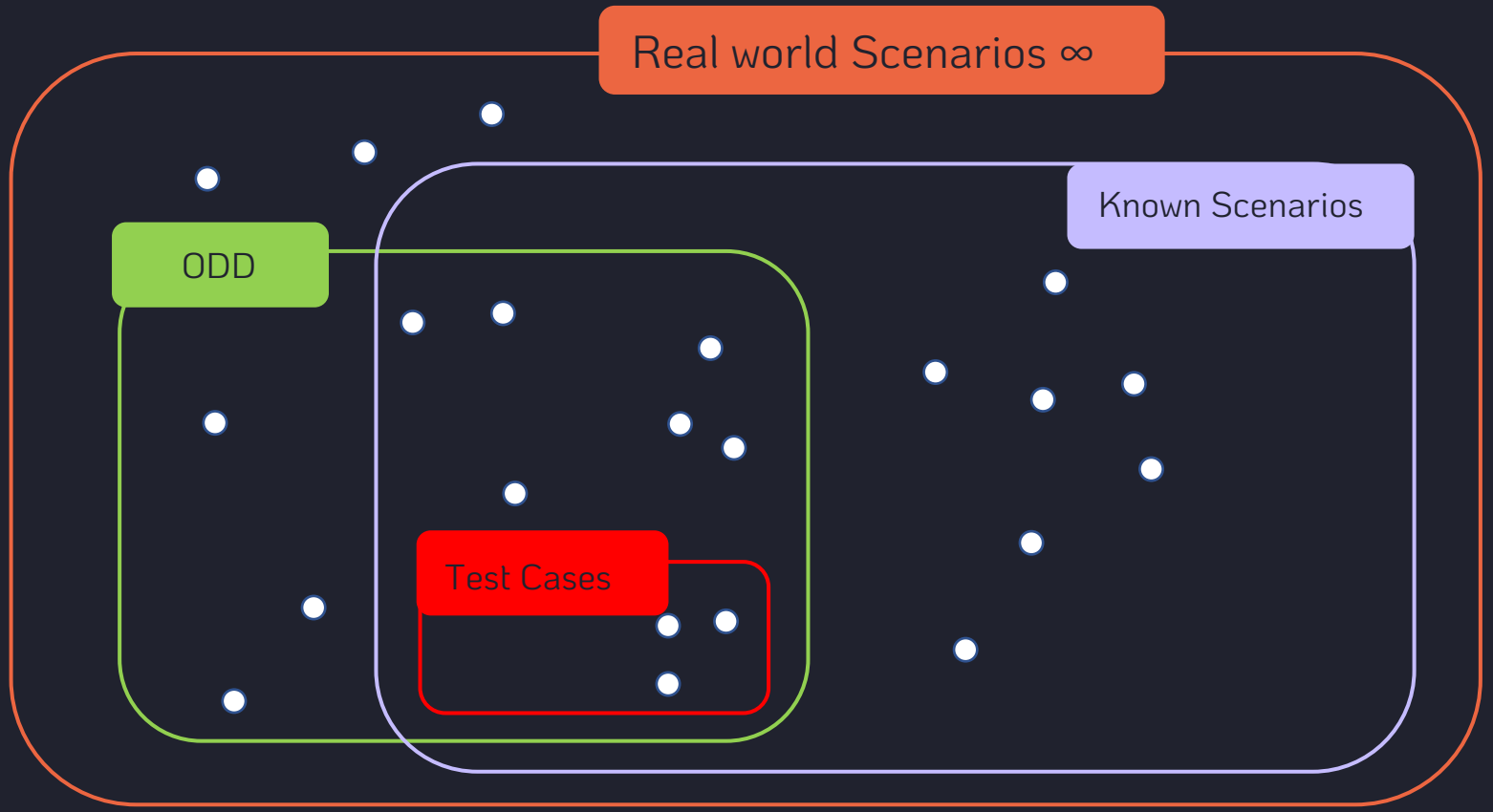

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The set of scenarios falling within ODD

The set of Test cases

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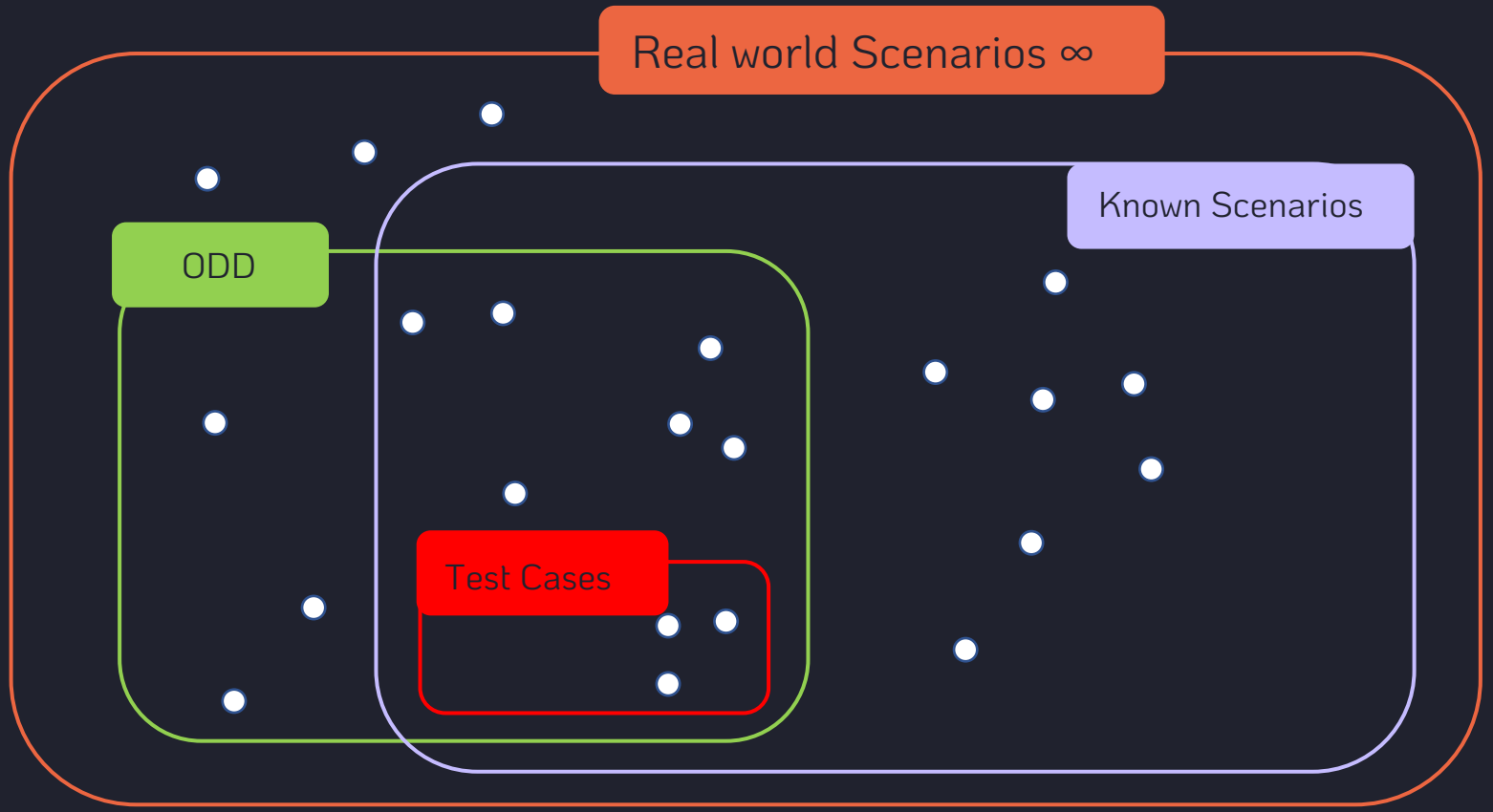

- Does the ODD concept ultimately boil down to a set of scenarios that our ADS is designed to/capable of handling?

Specific Scenarios

The set of all possible scenarios

The set of identified/known/recorded scenarios

The set of scenarios falling within ODD

The set of Test cases

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MULTI STAKEHOLDER VIEW

Approach and process

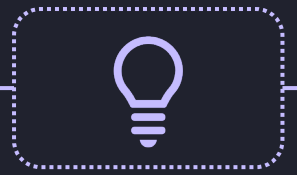
"I Want you to guarantee me that your ADS is capable to drive safely from Downtown San Jose to San Francisco, only on 101,in summertime and during daylight with sunny bright skyes"

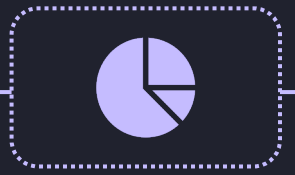
Says the Major

Provide Concrete operating conditions

What does it actually mean?

Parameters, concrete scenarios, P distributions etc.





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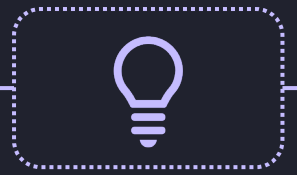

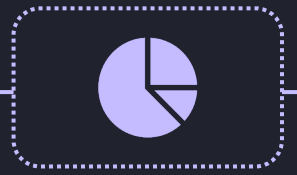

- How do we bridge the communication gap and make sure that we incorporate all the level of abstraction required without loosing efficacy and rigor?

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CONTACT

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Thank you!

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