



In the Eye of the Beholder: A User's View of PSA R&D*

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*The views expressed in this presentation are not necessarily those of the U.S. Nuclear
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A “Hot Topic” emerges – now what?

- Fire
- Errors of commission
- Uncertainties
- Risk-informed decision making
- Digital I&C
- External hazards
- Multi-unit risk

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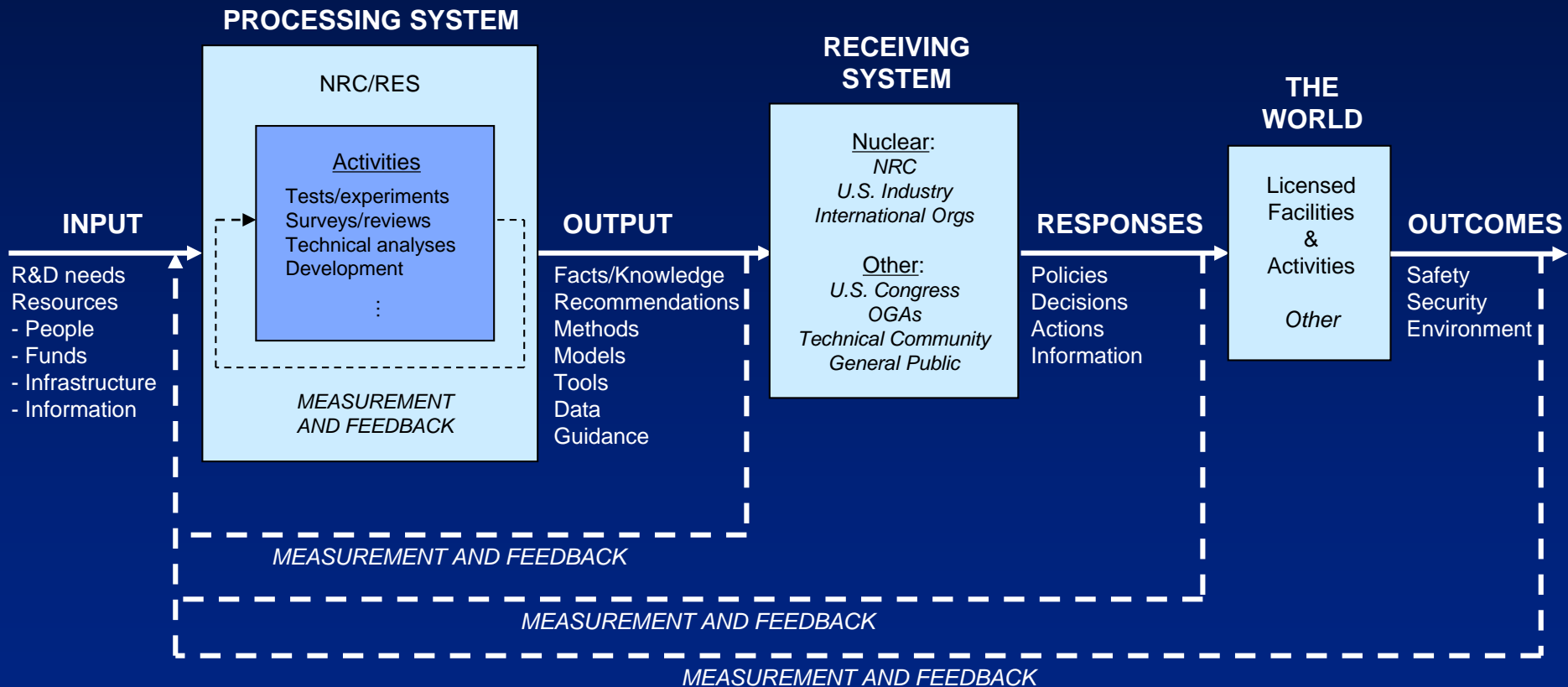


What R&D
is needed?
How to
prioritize?

Multiple needs and users, existing solutions



From outputs to outcomes



Adapted from National Research Council, "World-Class Research and Development Characteristics for an Army Research, Development and Engineering Organization," National Academy Press, Washington, DC, 1996, ISBN 0-309-05589-X.

Some questions

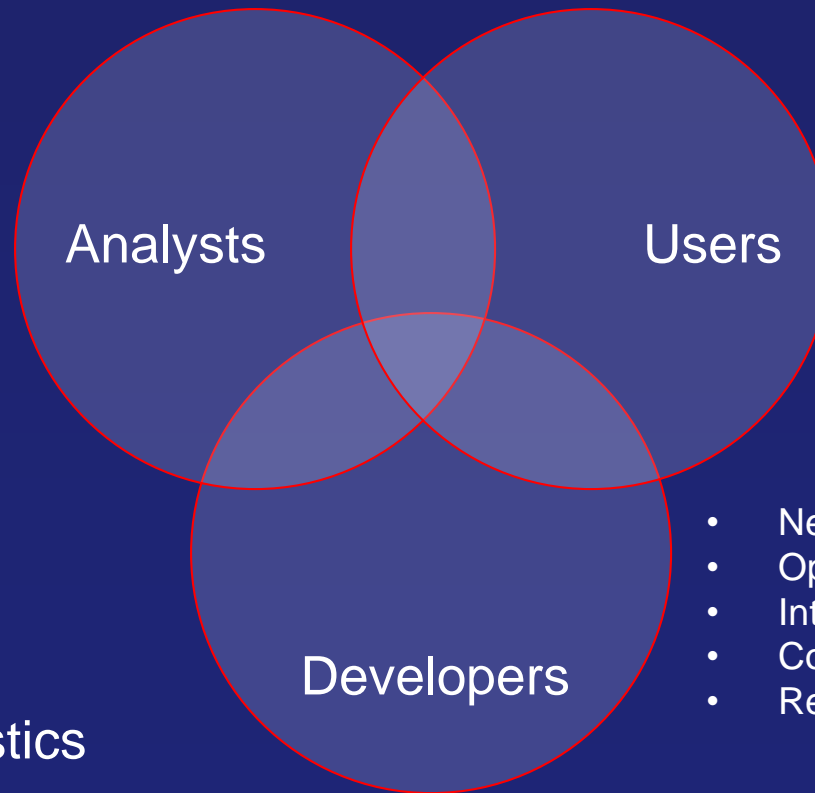
- Regulatory purpose
 - What is the decision problem? Is it risk significant?
 - Is there already a “solution” for the problem? If not, is one already being developed?
 - Will the R&D-produced (or suggested) solution be much better?
 - What follow-on (if any) is needed to develop a solution from the R&D product? How long will this take?
 - Are there important side-benefits (e.g., regarding infrastructure)?
- Practicality
 - What user knowledge/skills/abilities are needed?
 - Are required data practically obtainable?

Additional Slides

“The System” and Some Challenges

- Data
- Bounding/screening
- Guidance
- “Holes”
- Integration
- Imagination

- Time
- Resources
- Biases/heuristics
- Communication



- Understanding
- Uncertainties
- Heterogeneity and aggregation
- Confidence
- Other Factors (e.g., DID, safety margins)
- Stakeholders

- New science/engineering
- Operational experience
- Intended users/applications
- Computational limits
- Rewards