

TOP 4 INNOVATIONS

Delegates at “Innovation for the Future of Nuclear Energy – A Global Forum” prioritized the most critical innovation technologies or processes and answered a set of questions to begin to pursue a plan of action for each of those four innovations. At this first step of building the Plan of Action, the top innovations, barriers, timeframes, and needed organizational engagement are identified. A Collaboration Network for the innovations is being developed and will be available soon.



Machine Learning/Big Data

– to make better use of big data, data analytics and artificial intelligence already available in the nuclear power sector for optimizing maintenance



Framework to Share Comparable, Reliable Data

– R&D, Operations, Maintenance – to increase data sharing on research and development, operations and maintenance



Digital Twinning

– the virtual recreation of a process into a computer-based model to improve nuclear plant performance and reduce costs



Advanced Manufacturing

– including 3D printing, to address supply chain challenges

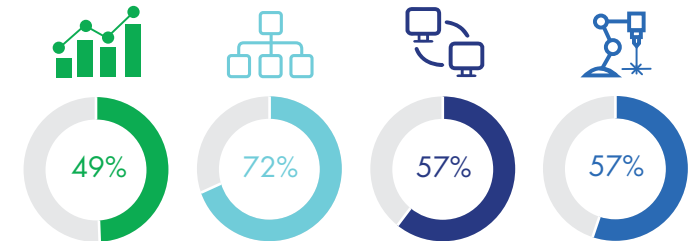
GUIDING PRINCIPLES

- Collaboration
- Enabling Change
- Disruption
- Making a Difference

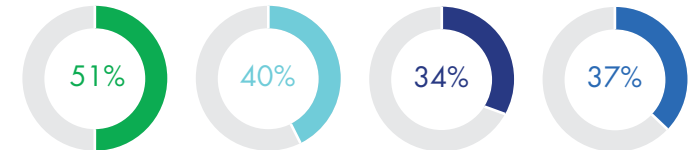
ACTIONS TO PURSUE INNOVATION

RESPONSES

Collaborate with other organizations



Develop actions for my organization



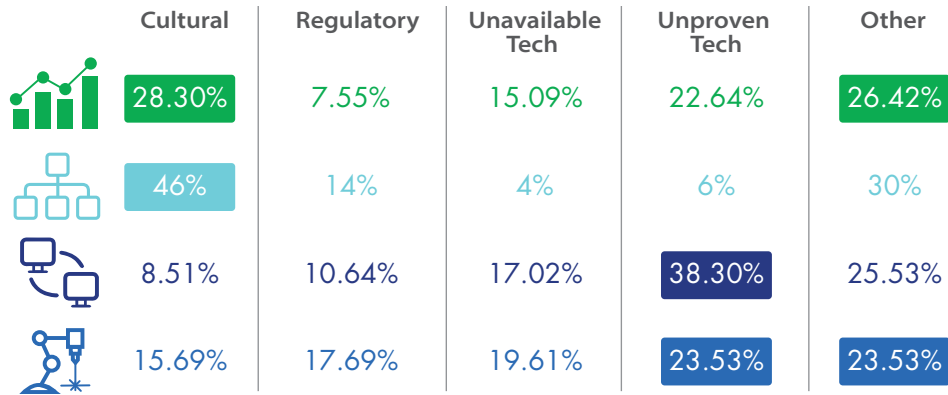
Inform key stakeholders



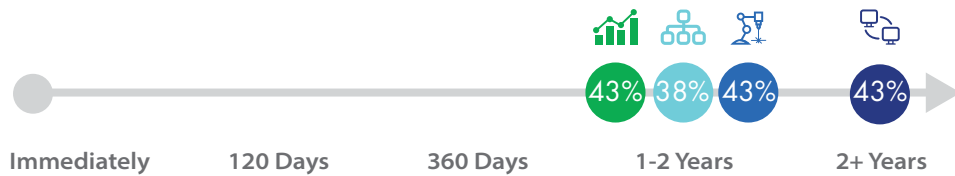
Other



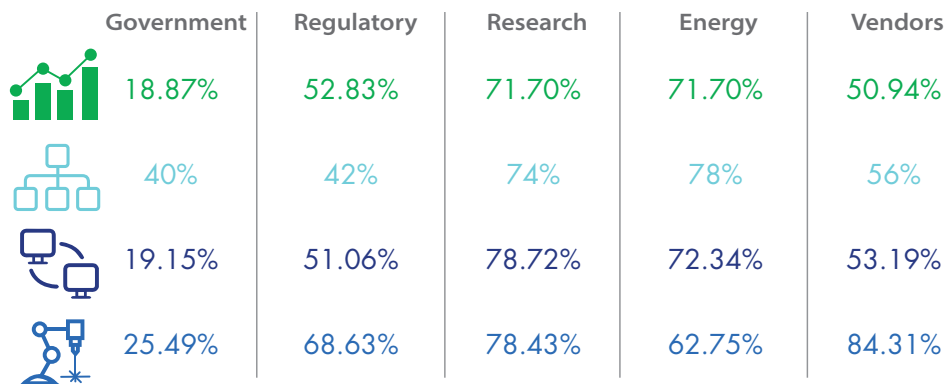
DEPLOYMENT BARRIERS



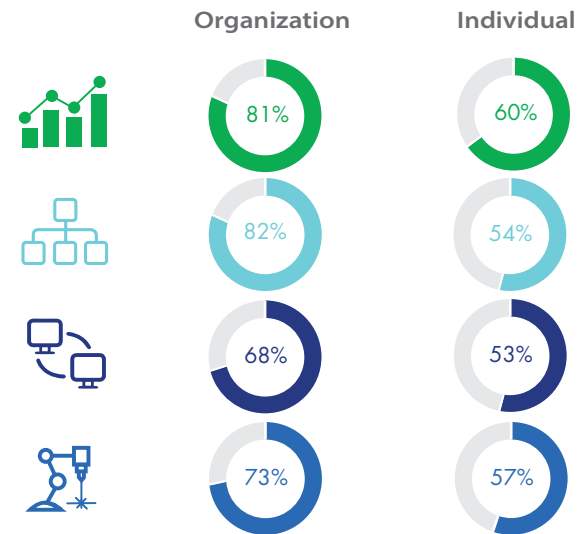
DEPLOYMENT TIMEFRAME



ORGANIZATIONS FOR DEPLOYMENT



COMMITMENT TO PURSUE ACTION



TOP 12 INNOVATIONS FOR 3 CATEGORIES

During the prioritization session, delegates ranked their top innovations for these 3 categories. These are the top 4 for each category, from which the final Top 4 Innovations were then chosen.

Technology

- Machine Learning/Big Data
- Digital Twins
- Immersive Technologies
- Advanced Manufacturing/3D Printing

Framework

- World-wide transition from the linear no-threshold model
- Global supply chain coupled with financial frameworks to reduce costs & improve efficiencies
- Coordinated, multi-lateral risk-informed regulatory approval process
- Frameworks to share comparable, reliable data – R&D, operations, maintenance

Culture and Leadership

- Accepting & learning from failure
- Provide budget & resources
- Develop commitment and strategy
- Improve diversity