



DEPLOYMENT OF RESEARCH RESULTS AND INNOVATION

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About CCIT...

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The California Center for Innovative Transportation (CCIT) accelerates the implementation of research results and the deployment of technical solutions by practitioners to enable a safer, cleaner and more efficient surface transportation system.

About CET...

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CET

Center for Entrepreneurship & Technology

Through teaching, programs, and research, the Center for Entrepreneurship & Technology (**CET**) *equips engineers and scientists with the skills to lead, innovate, and commercialize technology in the global economy.*

Halloween Break

Why do witches wear name tags?

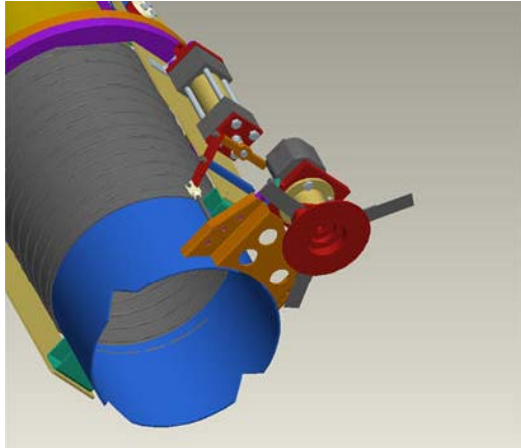


So that they can tell witch is which!



Automated Roadway Debris Vacuum

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- Benefits:
 - Debris is \$50m/yr. cost to Caltrans
 - Up to \$150k/yr./unit

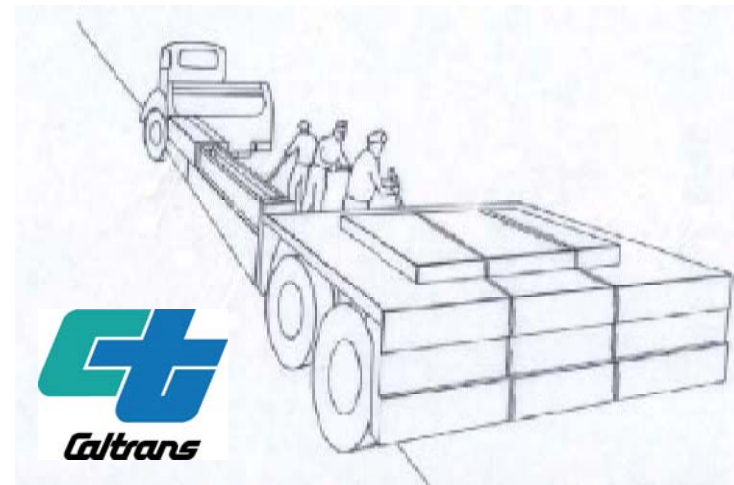
- 2 years of initial R&D
- 7 years to purchase (sole source main issue)
- One company belly up

Balsi Beam for Work Zone Safety

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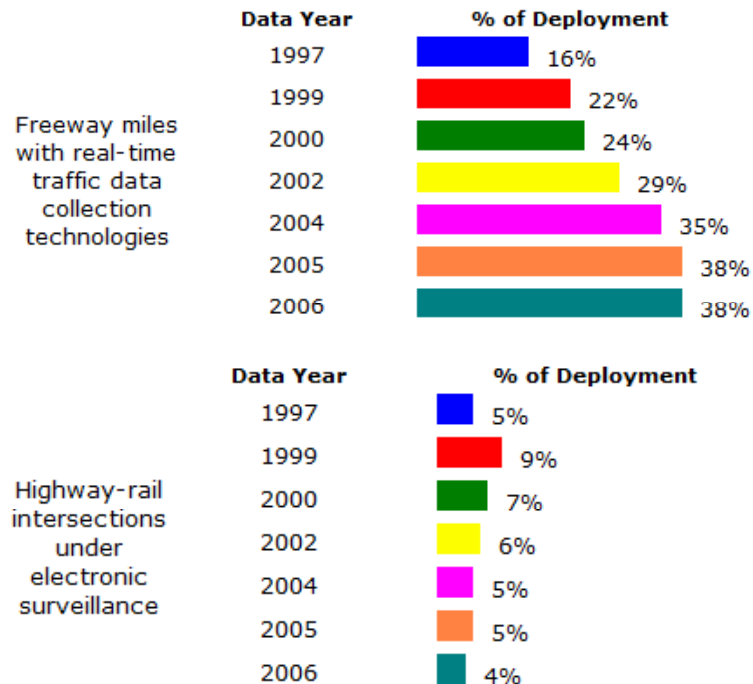
- 30' safety zone
- Deployed in 10 min
- Caltrans-designed

- Positively tested 2003
- IP licensing involved



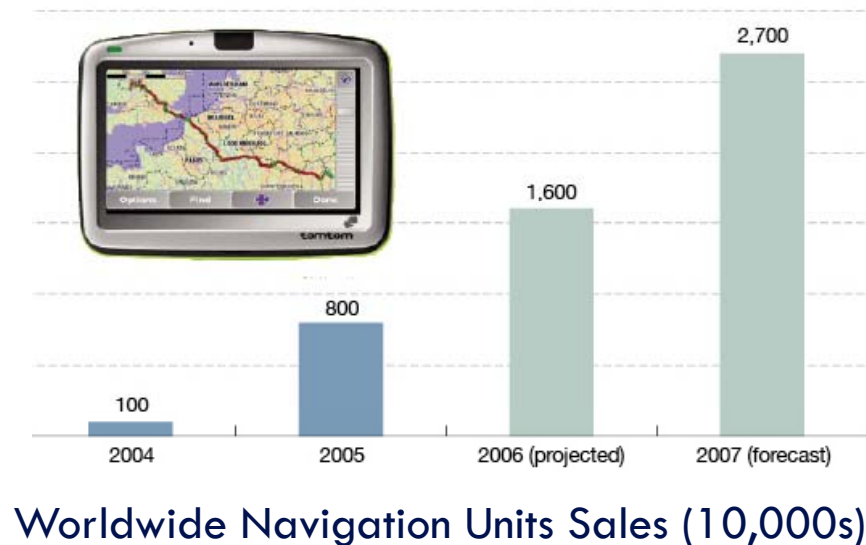
ITS Deployment: National Perspective

Infrastructure-side Deployments



Source: ITS Joint Projects Office

Vehicle-side Deployments



Source: SiRF Technology

Salient Points

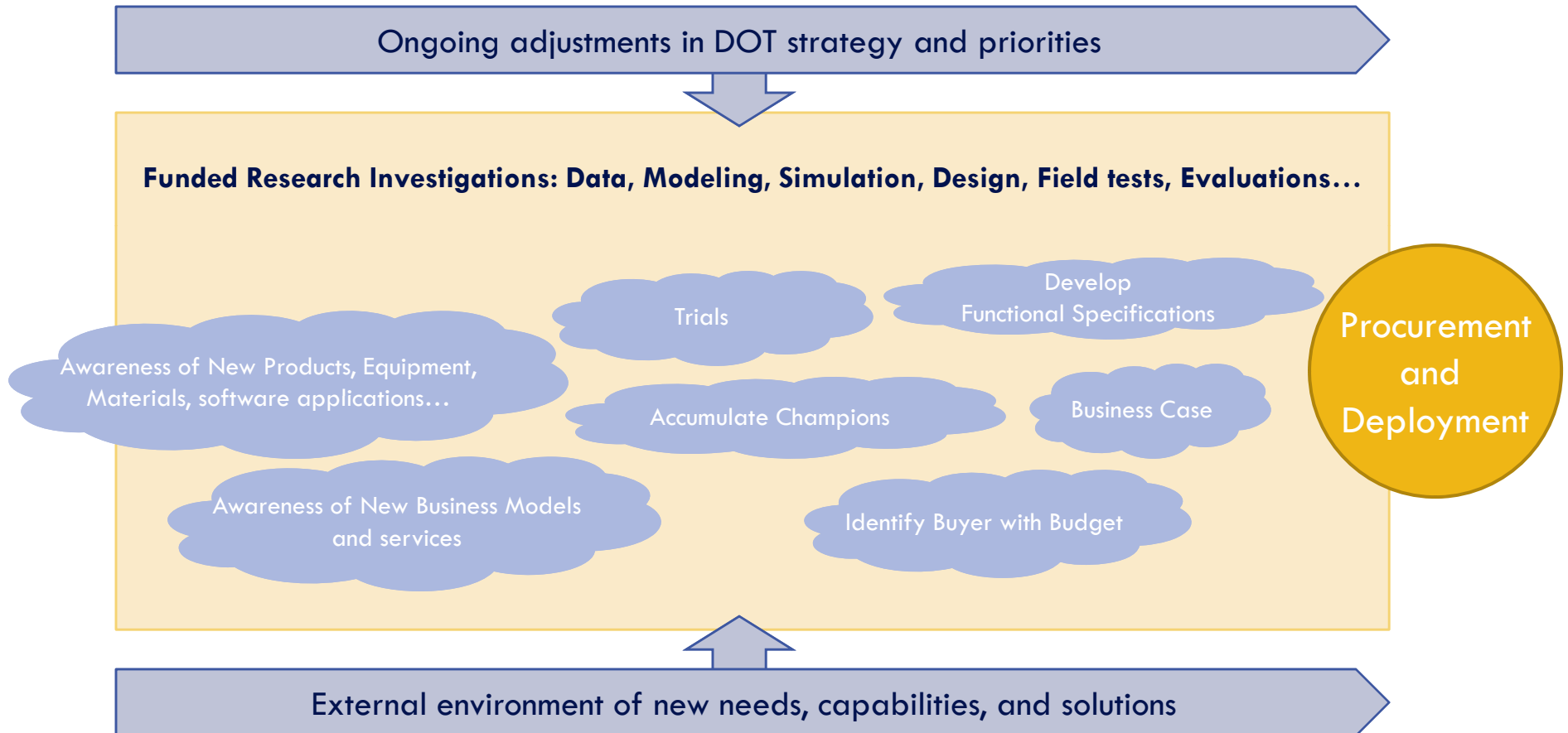
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- Procurement and other administrative rules a hurdle
 - ▣ Researchers and practitioners are well advised to anticipate
 - ▣ Research program designs need to acknowledge those hurdles

But also:

- Agency Buy-in
 - ▣ Internal customers and champions
 - ▣ Availability of funding for deployment
- Efficiency of new products evaluation and approval
 - ▣ Shed light on evaluation criteria and roadmap
 - ▣ Ability to write functional specifications
- Incentives to adopt innovations
 - ▣ Measures of performance

Innovation Dynamics



Deployment Defined

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Deploy: to spread out, utilize, or arrange for a deliberate purpose
<deploy a sales force> <deploy a parachute>

R&D Activities

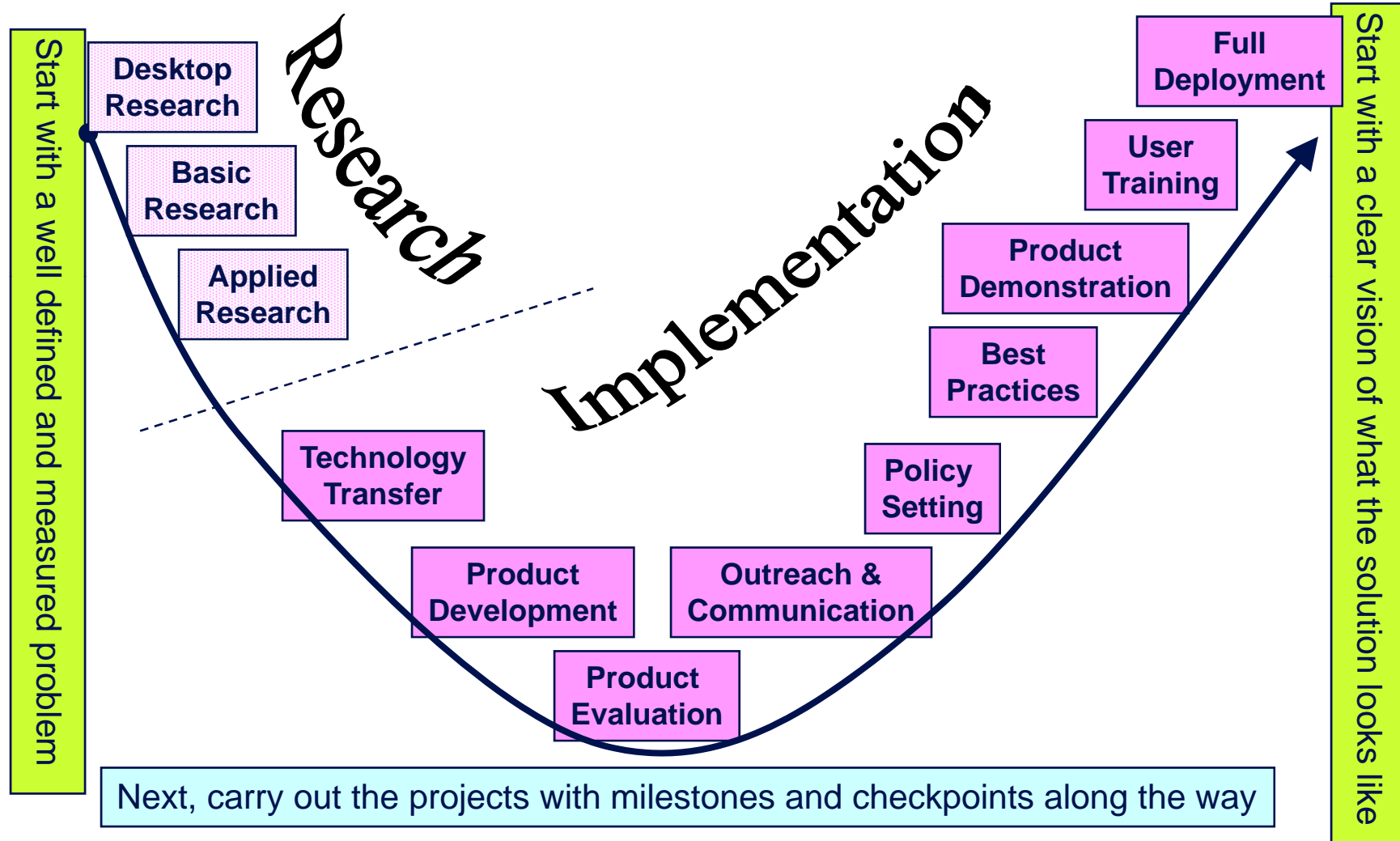
- ❑ Collect data, evaluate
- ❑ Model, simulate
- ❑ Design, build prototype
- ❑ Design methodology, process
- ❑ Field tests, trials
- ❑ Pilot project

Deployment Activities

- ❑ Synthesize concepts, knowledge
- ❑ Outreach and dissemination
- ❑ Write specifications
- ❑ Technology transfer, licensing
- ❑ Develop procedures, training
- ❑ Procure
- ❑ Organizational change

Example: Mn/DOT Template

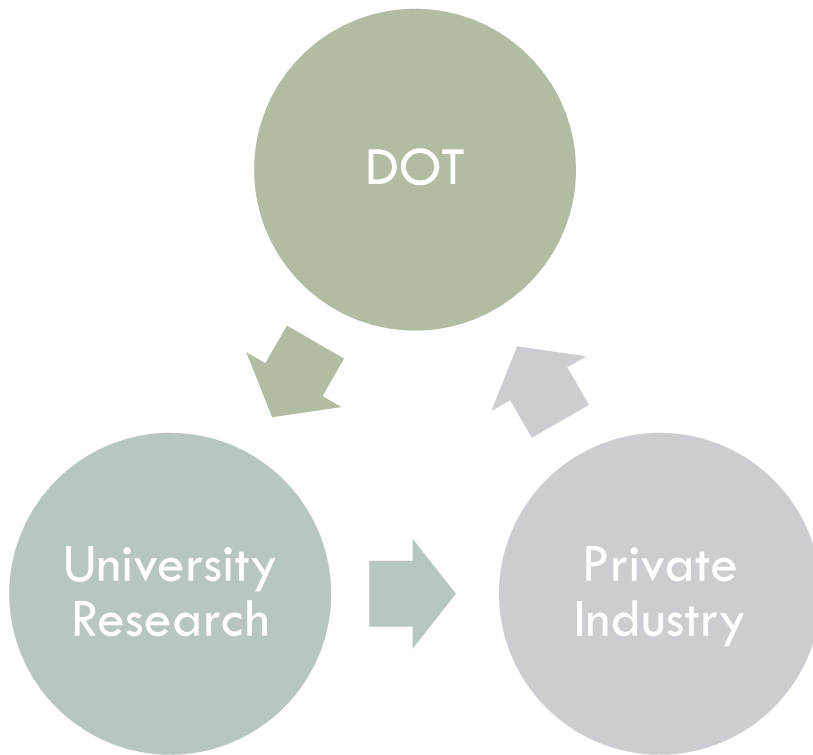
Then, develop a plan of related projects to solve the problem and deploy results



Finally, estimate or measure the impact of full deployment--determine return on investment

Implementation Model: Push-Pull

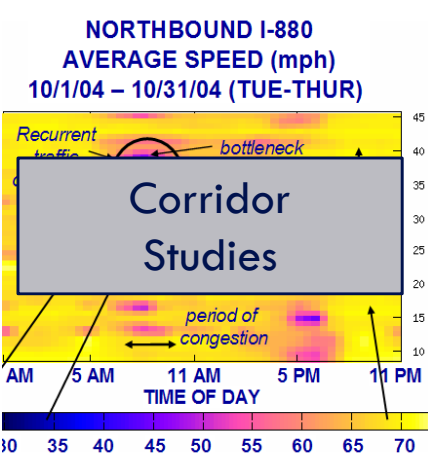
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Implementation Model: Project Assistance



Travel Times on Changeable Message Signs



Corridor Studies



WiFi on Capitol Corridor

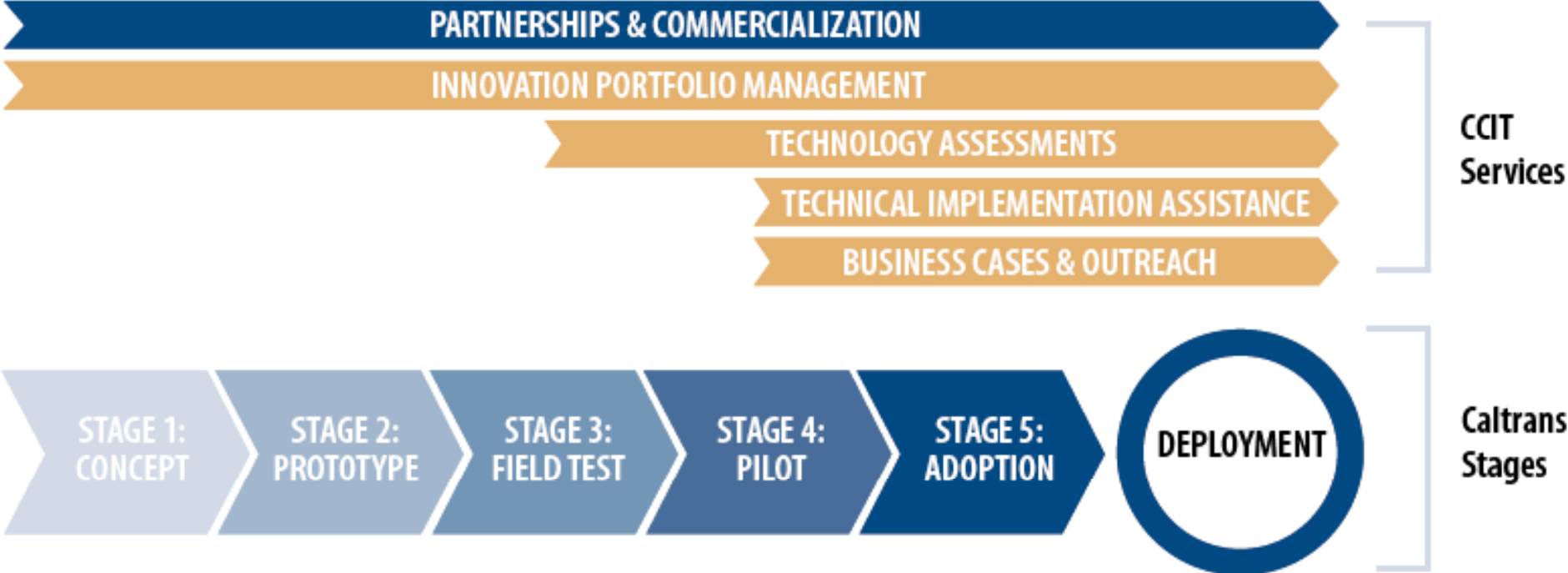


Implementation Model: Pull

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CCIT Activities



Halloween Break #2

Who was the most famous French skeleton?



Napoleon bone-apart



Trick or Treat?

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