

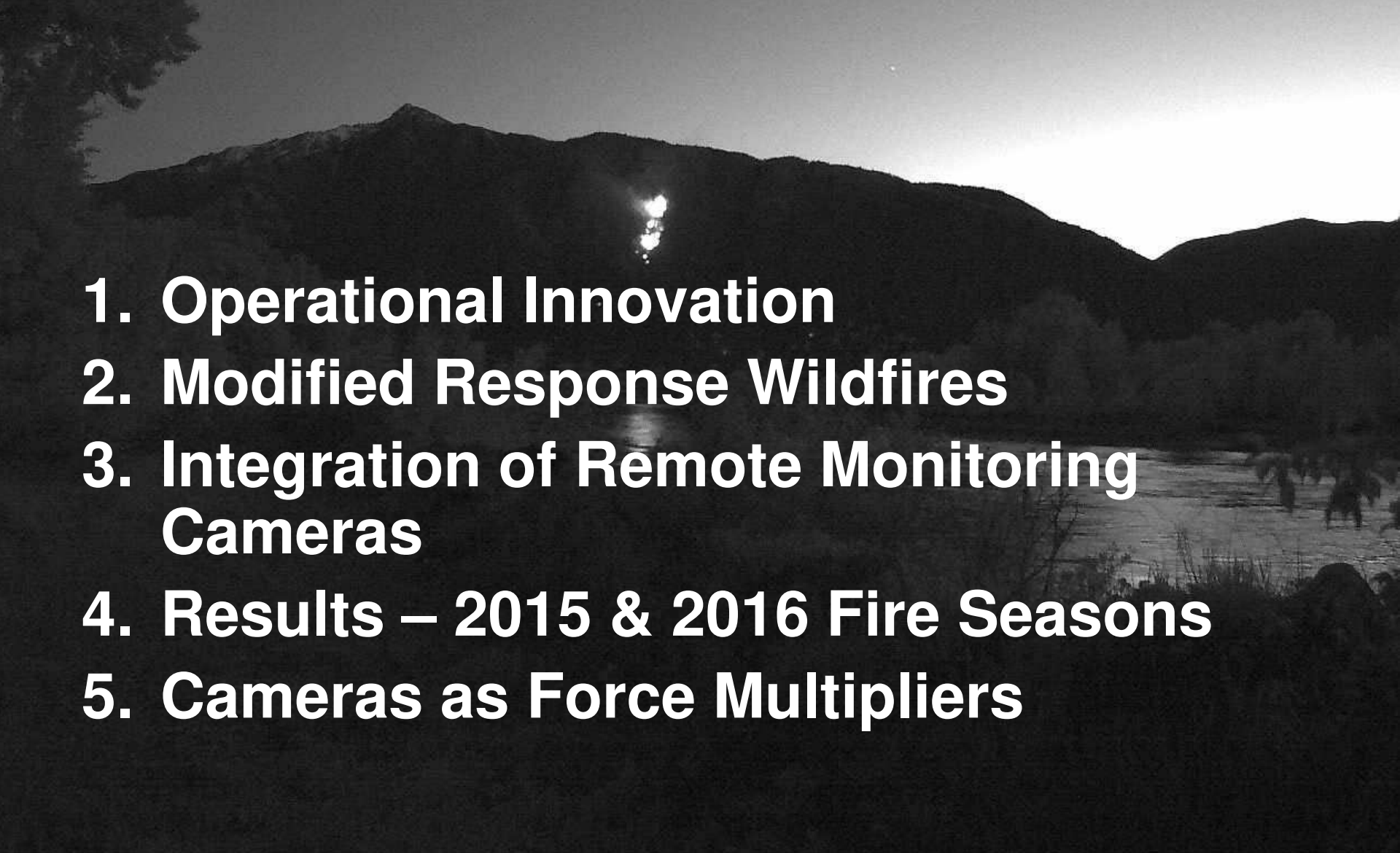
Remote Monitoring Cameras:

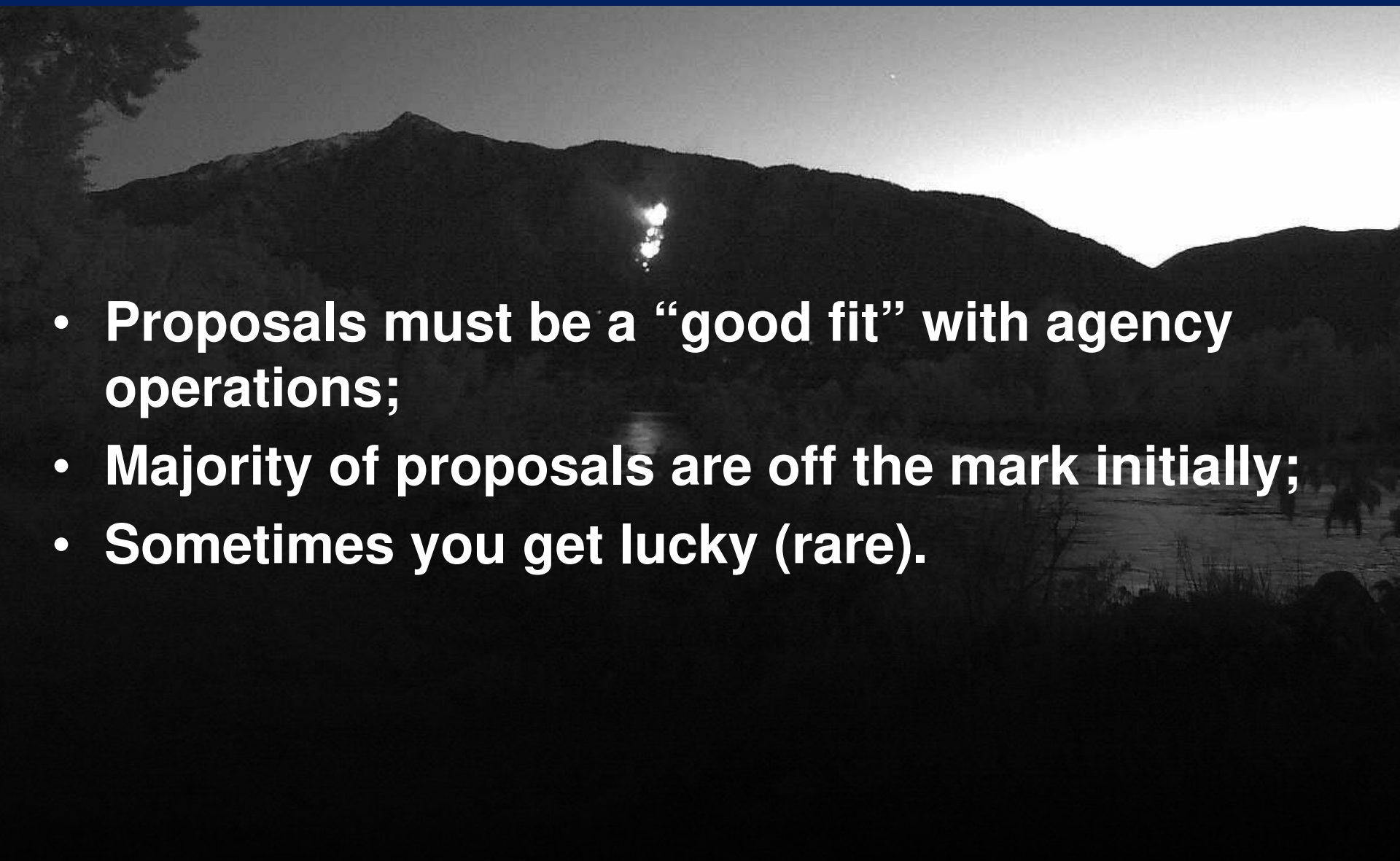
Development, Deployment & Force Multiplication




BC Wildfire
Service

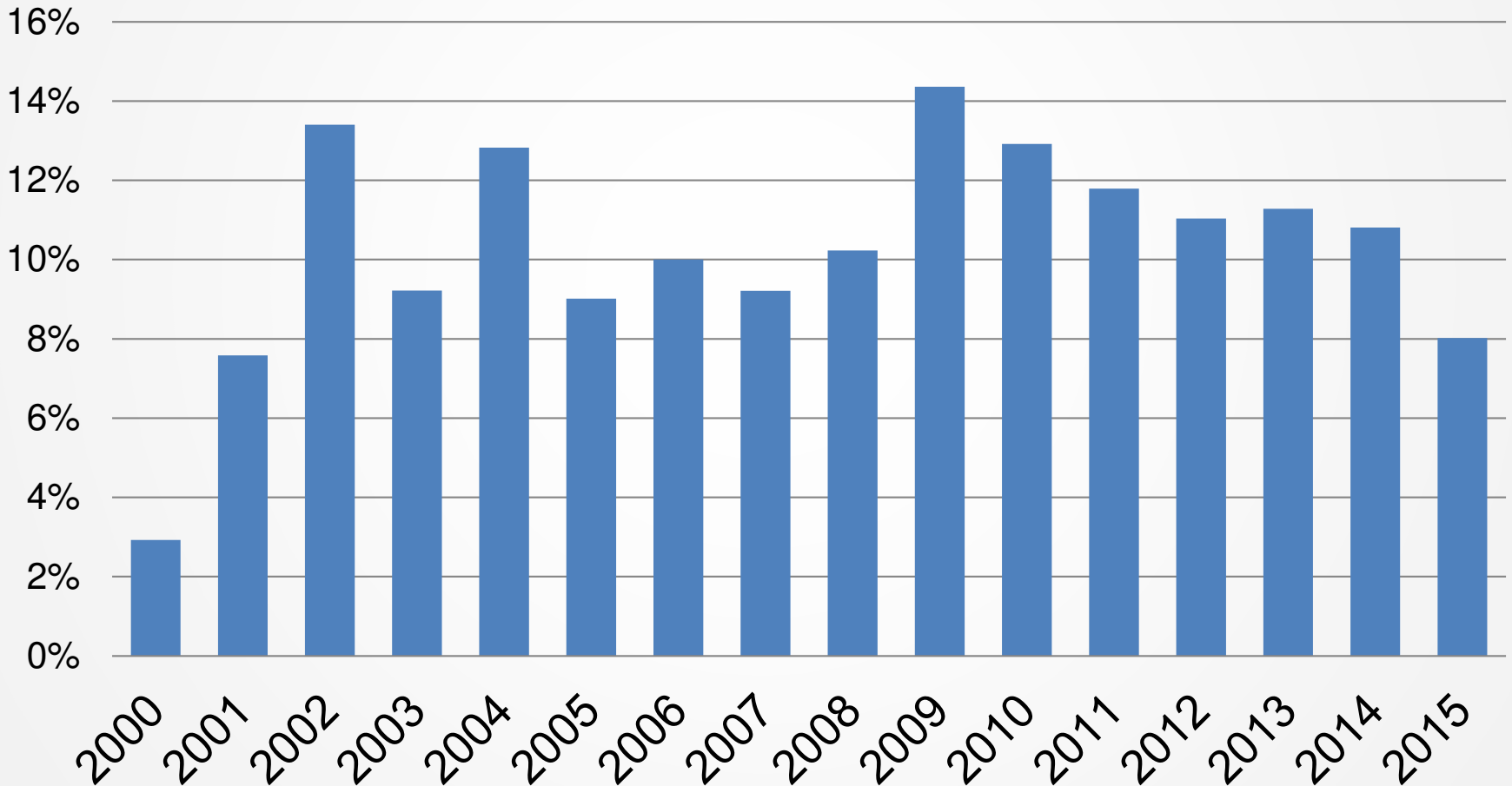
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Wildfire Preparedness Officer
October 26, 2016

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- 1. Operational Innovation**
 - 2. Modified Response Wildfires**
 - 3. Integration of Remote Monitoring Cameras**
 - 4. Results – 2015 & 2016 Fire Seasons**
 - 5. Cameras as Force Multipliers**

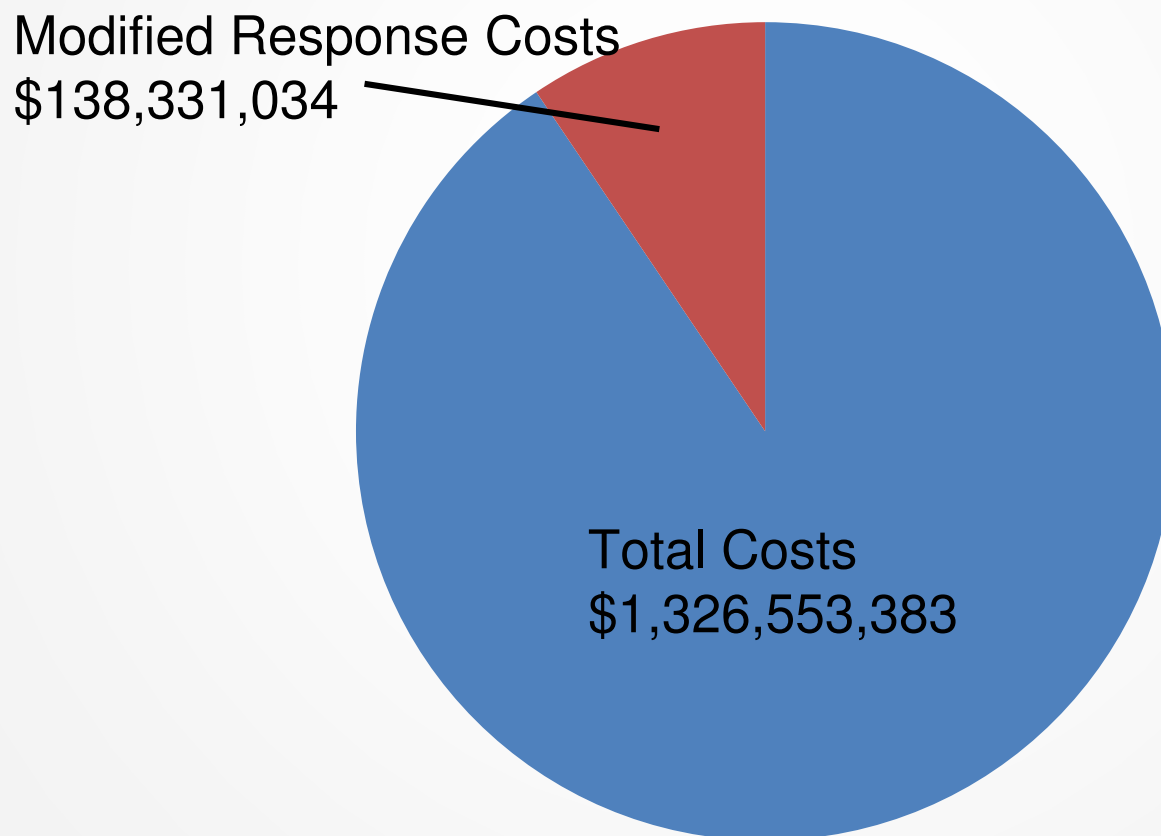
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- **Proposals must be a “good fit” with agency operations;**
 - **Majority of proposals are off the mark initially;**
 - **Sometimes you get lucky (rare).**

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- **Wildfires permitted to burn according to management objectives;**
 - **Actions range from monitoring to limited suppression;**
 - **Definitions have changed over the years.**

Percentage of Modified Response Fires, 2000 - 2015



Direct Fire Costs, 2000 - 2015



- **BC Wildfire wanted:**
 - **Cost-effective, simple solution**
 - **No technical expertise required**
 - **Easy integration (no software)**
- **FPinnovations assistance:**
 - ***A decision tool for remote camera systems (Feb. 2015)***
- **The need to manage staff expectations**

- **Remote Viewer from Nupoint Systems:**
 - **Photos transmitted over GlobalStar satellite system**
 - **Photos are sent to email**
 - **Users can send commands via email (adjust interval, trigger on demand etc.)**
 - **Operating costs are minimal**
 - **Near-IR capable**

► Integration of Remote Cameras



► Integration of Remote Cameras



► Integration of Remote Cameras





► Results: 2015 & 2016 Fire Seasons

	2015	2016
Cameras deployed	3	7
Number of fires monitored	6	7
Camera days	188	178
Photos taken	1013	1125
Helicopter costs avoided	\$126,725	\$92,168
Staff hours avoided	102	100
Total est. cost savings	\$131,439	\$97,018

- **Force multiplier:**

- *“A capability that, when added to and employed by a combat force, significantly increases the combat potential of that force and thus enhances the probability of successful mission accomplishment.” – U.S. Dept. of Defence (2009)*

- **Wildfire context:**
 - **Cameras installed on modified response fires enable the availability of finite resources for higher priority incidents**
 - **Observation of multiple fires can occur concurrently and on demand by fewer personnel**

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- **As operating environments become increasingly complex and constrained, the need to apply the right tool to the right application becomes more important than ever.**

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