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Customer Success Is Our Mission

IM & EM: Some System Considerations

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Raytheon Missile Systems

System topics & considerations

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- Setting the significance of IM & EM.
- Symposium topics bridge the IM & EM technologies.
- Knowledge points: connecting the development dots.
- Prime contractor system considerations.
- Tying it all together.

Why we get up in the morning…

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But sometimes tragedy strikes…

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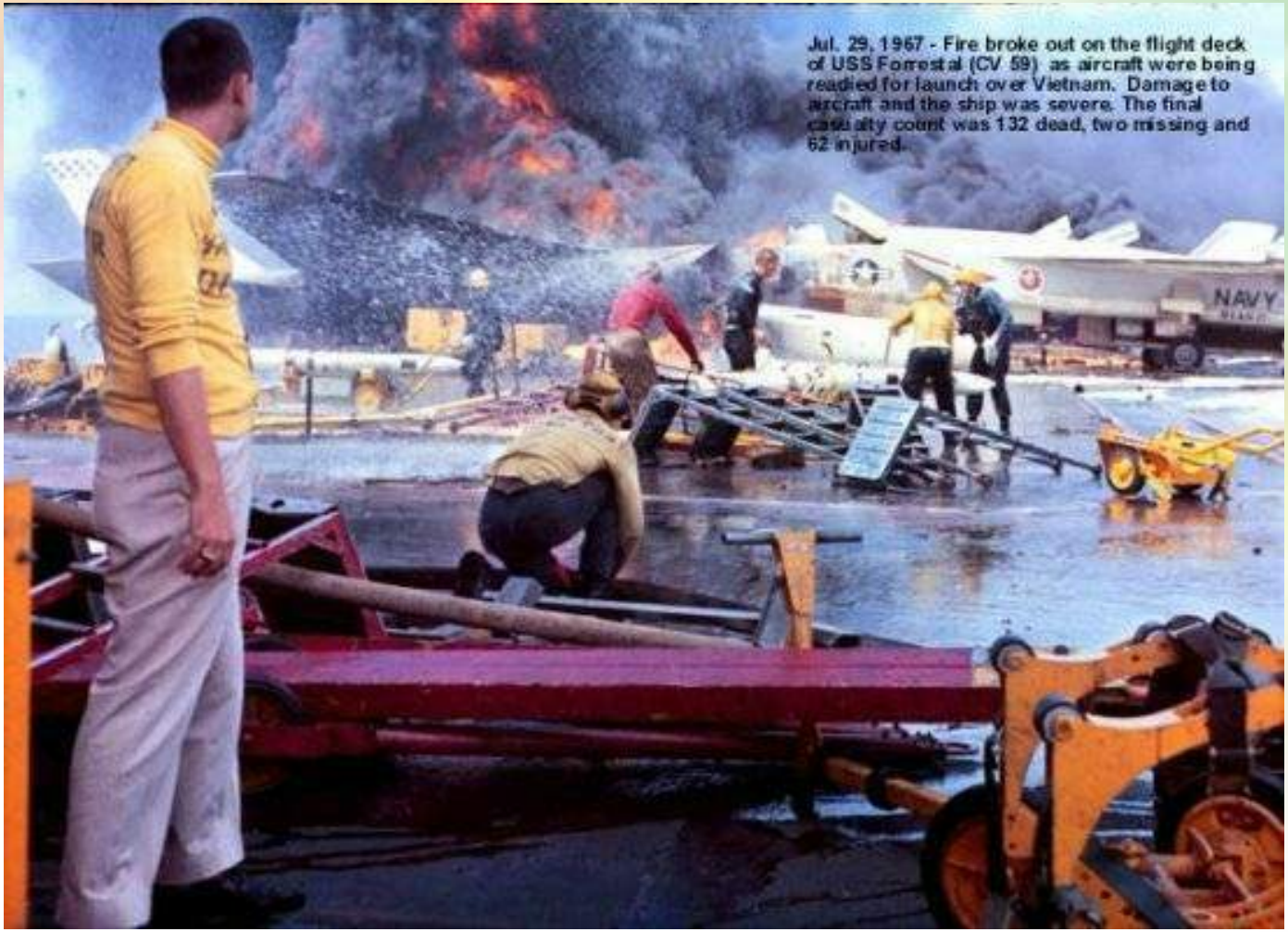

IM & EM --- Protecting our war fighters through technology...

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- This is a great symposium --- a broad range of key topics.
- Pushing the limits to drive maximum performance.
- Moving many solutions toward maturity.
- Exciting work in materials and modeling.
- Maturing developments in manufacturing and processing.

Knowledge points: Connecting the system engineering dots…

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- **Knowledge point 1: Resources and requirements match.**
  - Technologies demonstrated in their intended environment.
  - Feasible preliminary product design.
- **Knowledge point 2: Product design is stable.**
  - Meets requirements, and cost, schedule, reliability targets.
  - 90% of engineering drawings completed.
  - Successful prototype demonstration of performance.
- **Knowledge point 3: Manufacturing processes are mature.**
  - Demonstrated manufacture within cost, schedule, and quality targets.
  - Critical manufacturing processes are under statistical control:
    - Repeatable, sustainable, and capable of consistent quality standards

Prime contractors are driven by IM & EM architecture and predictability…

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- Balance of safety and logistics with performance and cost.
  - Energy, weight, structure, orientation, environment, enclosures, etc.
  - IM designs must synergize all constituents: igniters, EM, structures,…
- Technology and Manufacturing Readiness Levels.
  - Important indicators of development predictability.
- Modeling and simulation fidelity and verification processes.
  - Key for trade studies of compounds, shapes, and features.
  - Statistical validity assured through proper Design of Experiments.
- Synchronized technology development roadmaps needed.
  - Risk management and realism are essential.

Enjoy the Symposium!

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- Watch and listen for how system drivers are addressed.
- Question and challenge the presenters on their premise.
- Assess the technologies for each knowledge point.
- Question the statistical basis of all claims.
- How ready are we for “prime time”?
- What will it take to get there?

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