

ECBC

Advanced Mask Concepts

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Respiratory Protection Technology Team

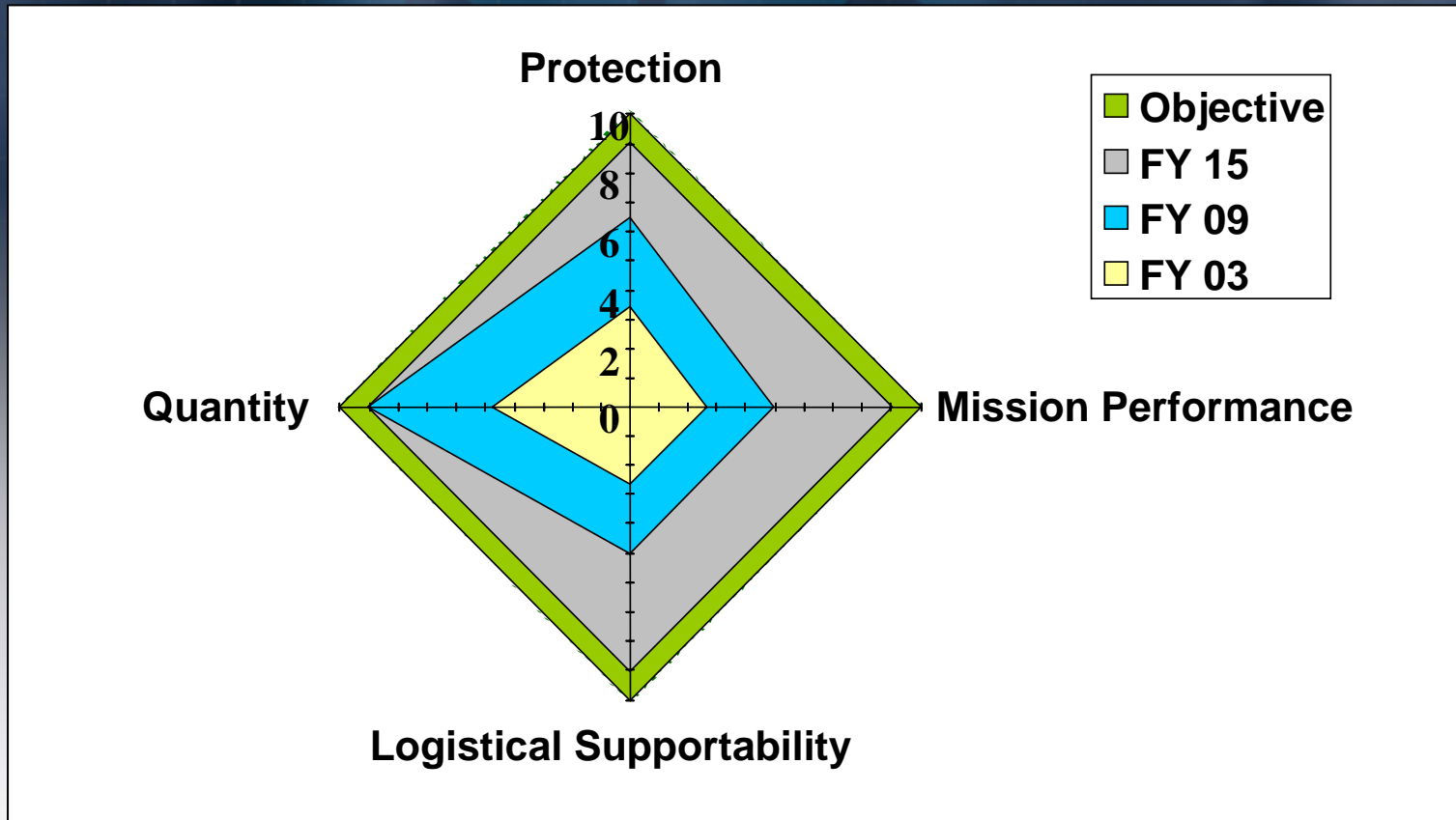
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Advanced Mask Concepts

User Assessment



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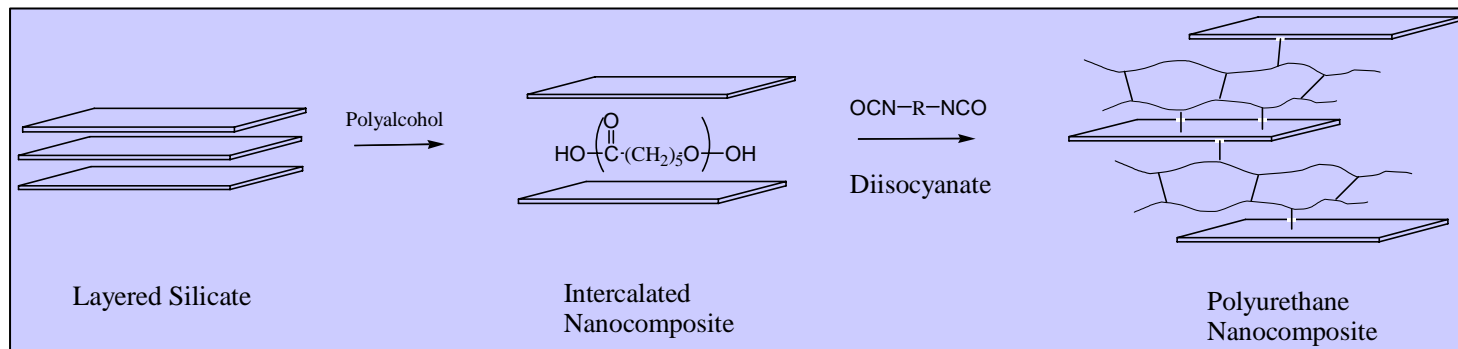
Technology Assessment

NGGPM	Enhanced NGGPM
Nanocomposite Materials	Powered Technologies
Nanocomposite Filter Media	Nanotechnology
System Pressurization	Microelectronics
System Integration	Micro-machines
Mid Term (3-6 years)	Long Term (6+ years)
Power 	



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Nanocomposite Materials



**Polyurethane
Process**

Material Goals:

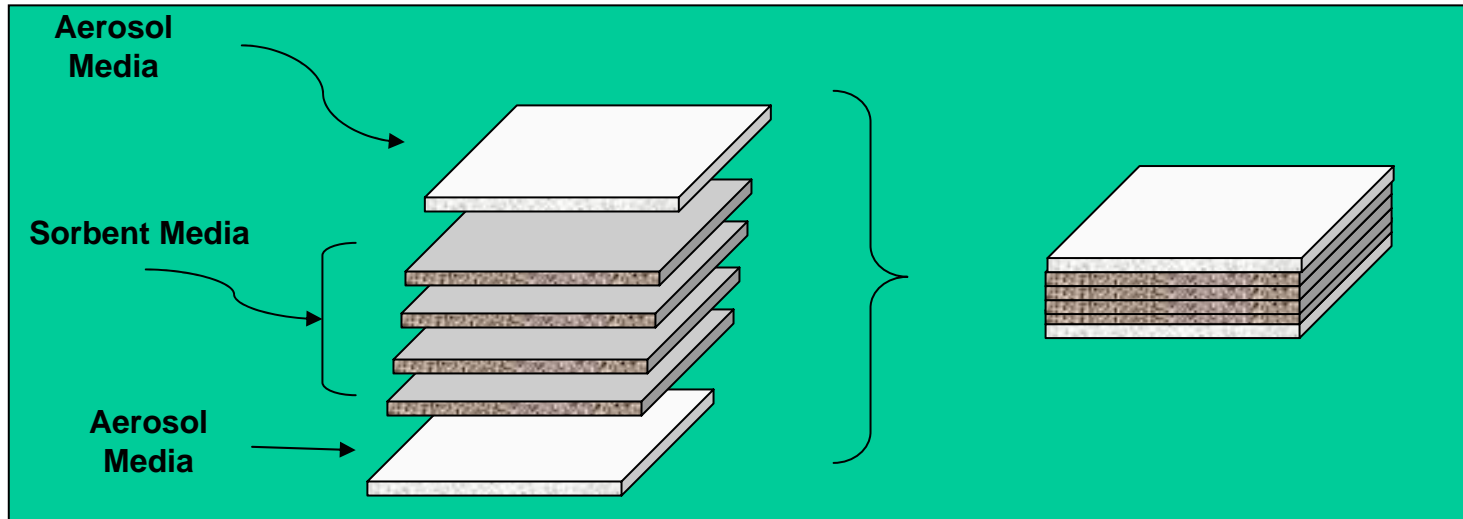
- **Improved Chemical Resistance**
- **Tailored Performance**

Graphic provided by
Triton Systems



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Composite Filter Media



Layering
Process

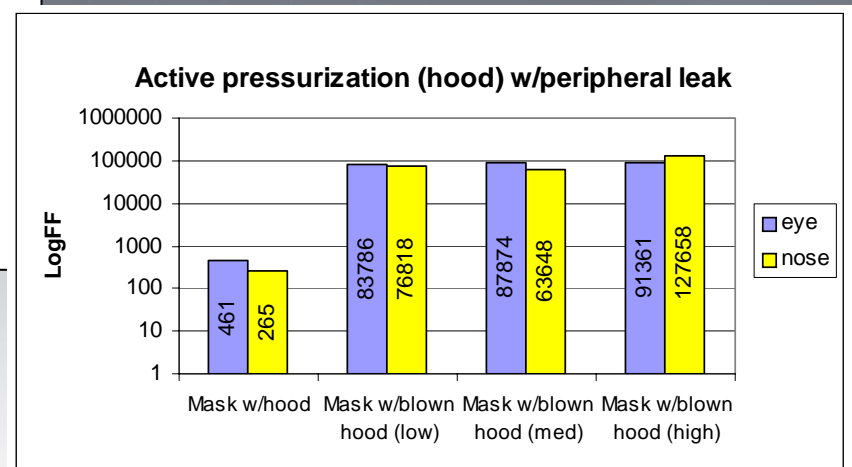
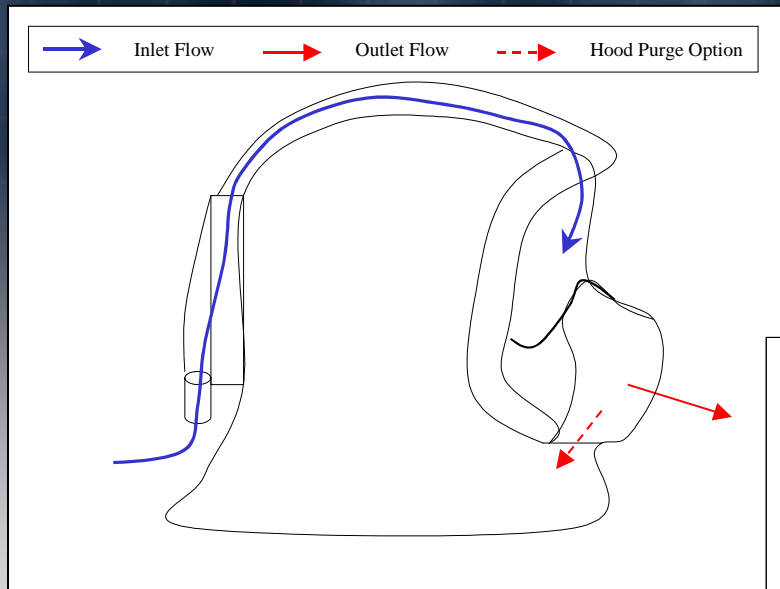
Filter Media Goals:

- Improved Filter Performance
- Tailored Performance



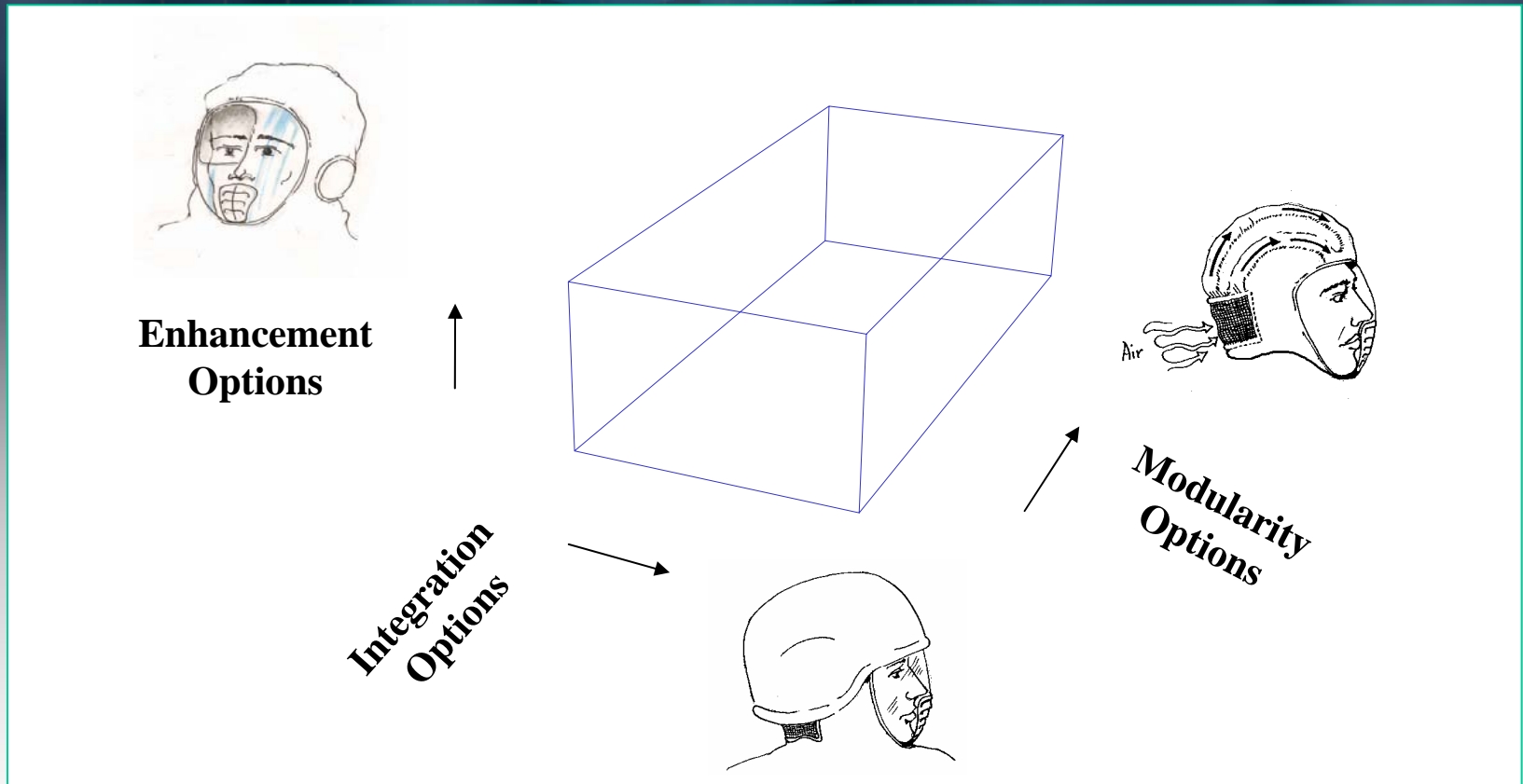
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System Pressurization

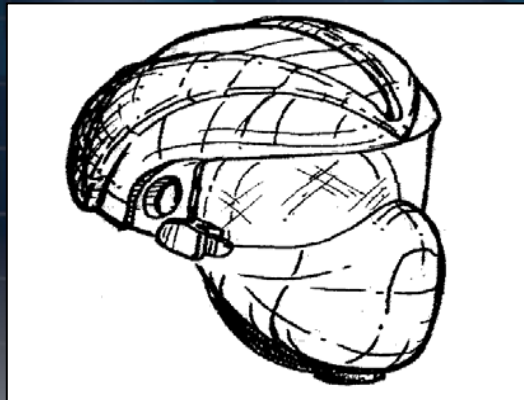


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System Integration



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NGGPM Concept *(An Integrated Approach)*



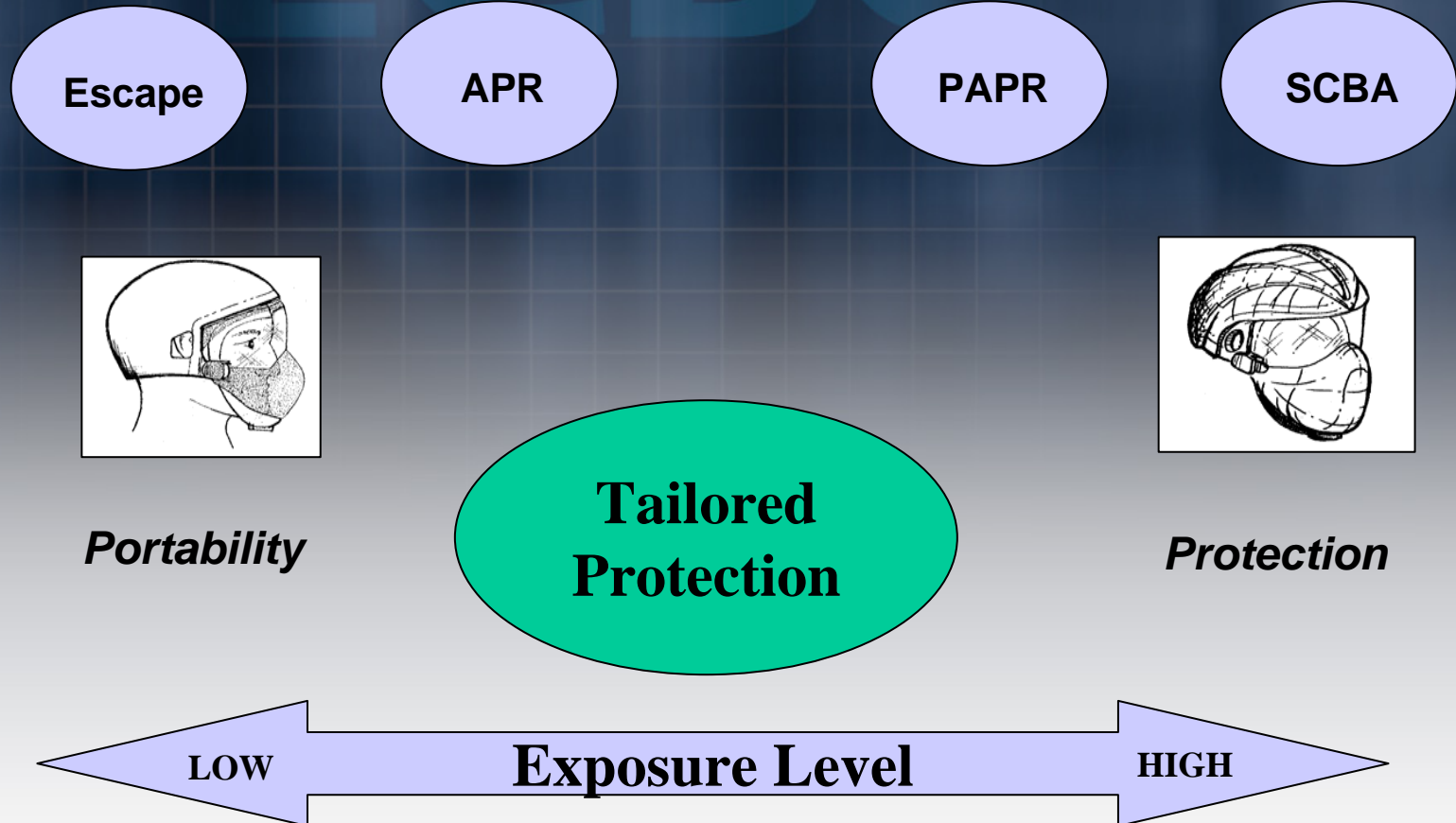
NGGPM Features

Family-of-Systems
Tailored Protection
Performance Optimization
Operational Modularity
Enhancement Adaptability



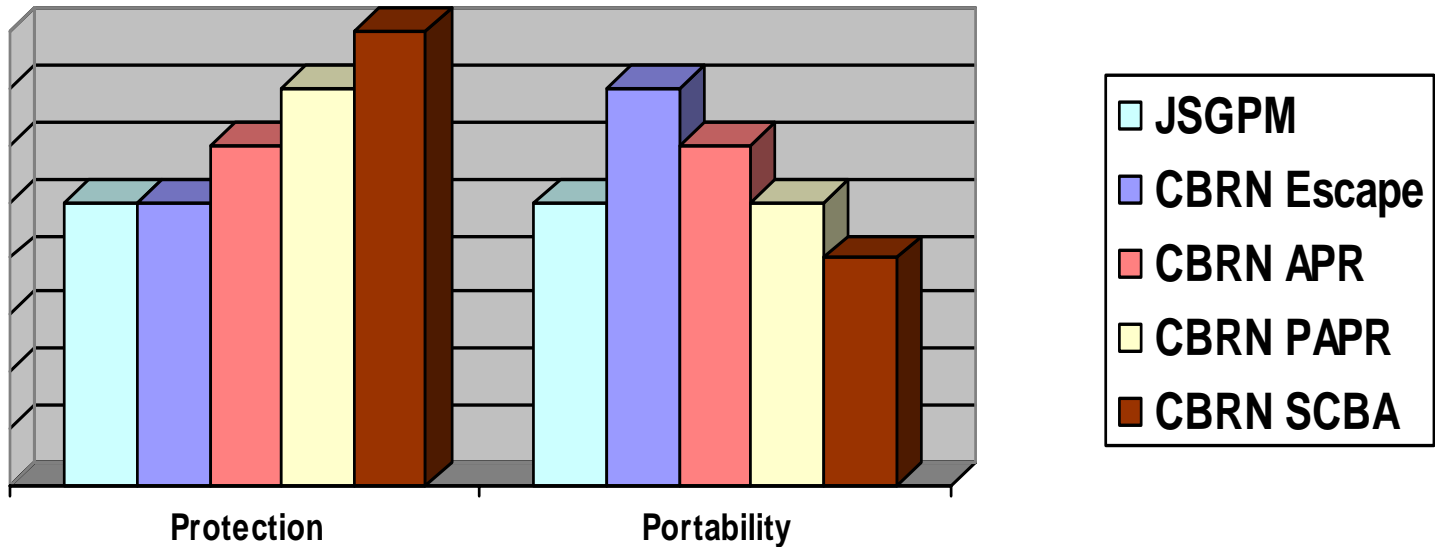
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Family-of-Systems



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Overall System Goals

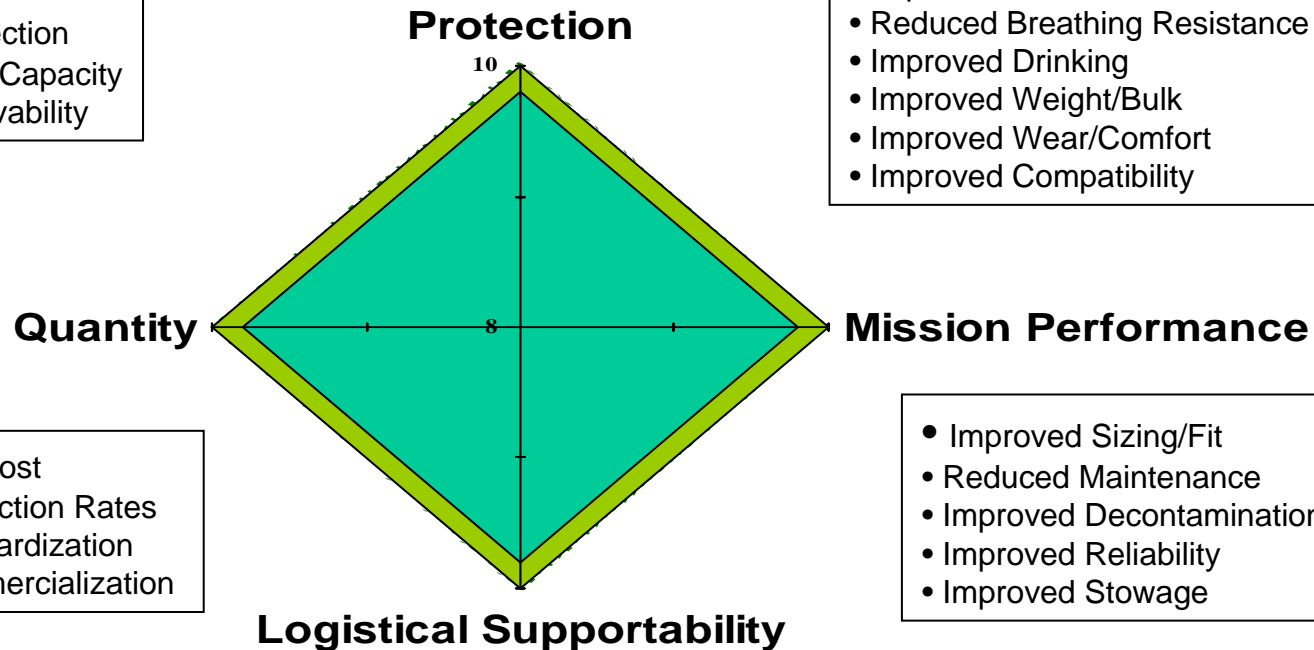


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Performance Optimization

(The 90 - 95% Solution)

- Improved Protection
- Improved Filter Capacity
- Improved Survivability



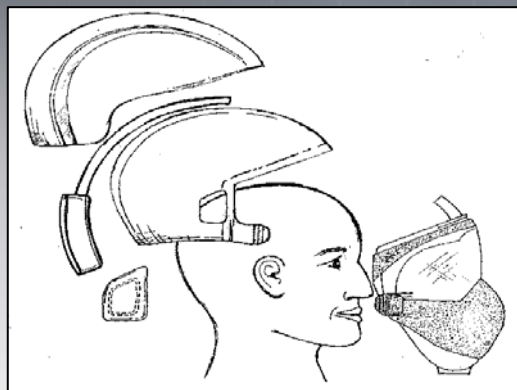
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System Integration

Integration Benefits

- System Pressurization
- Communication Liner System
- High Surface Area Filters
- Helmet/Suit Interface Control

Modularity



Enhancement Options

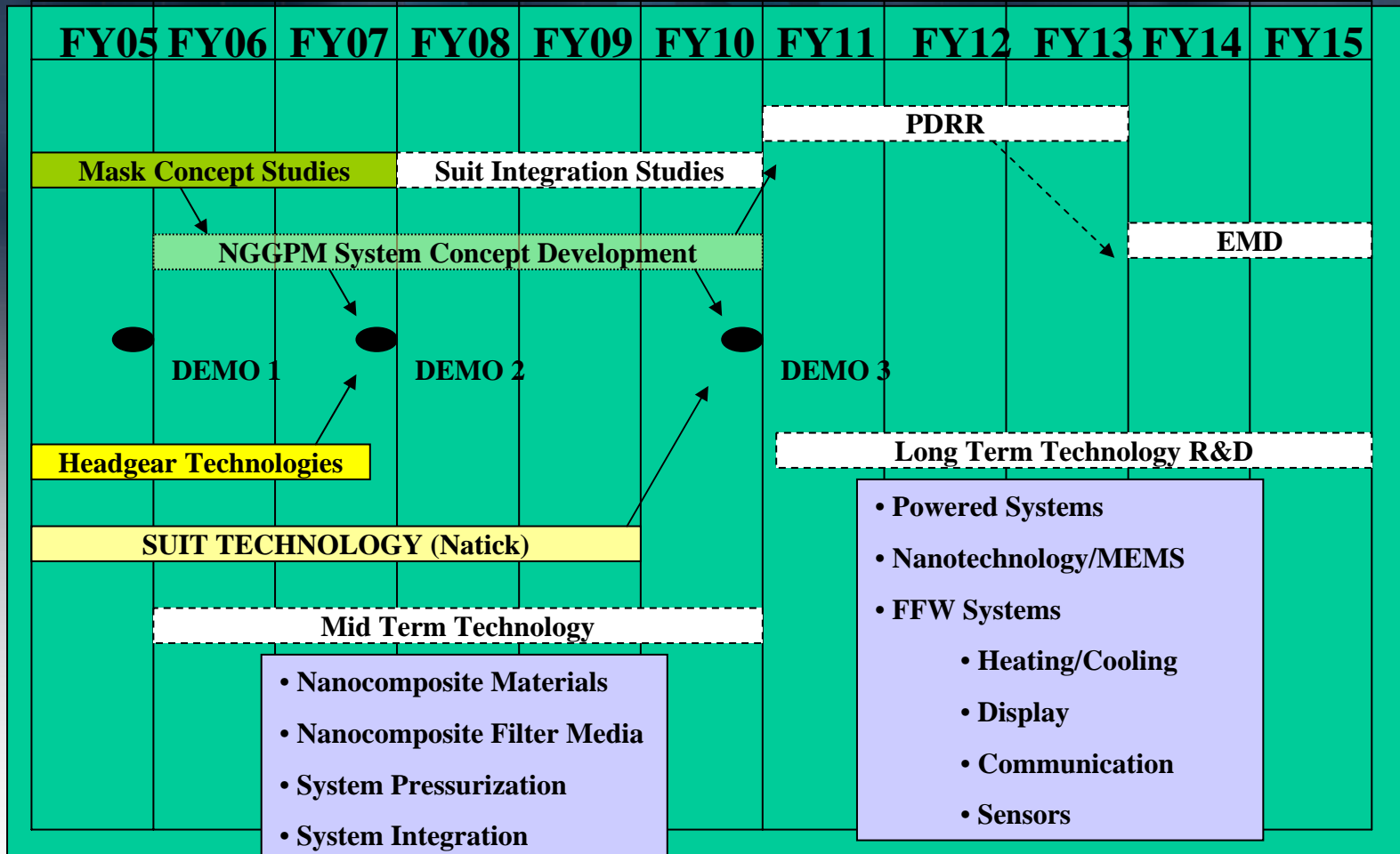
Microclimatic Cooling*
Communications*
Displays/Sensors*

* Leverage FFW

Adaptability



Advanced Mask Concepts Technology Roadmap



Advanced Mask Concepts Transition Roadmap

