



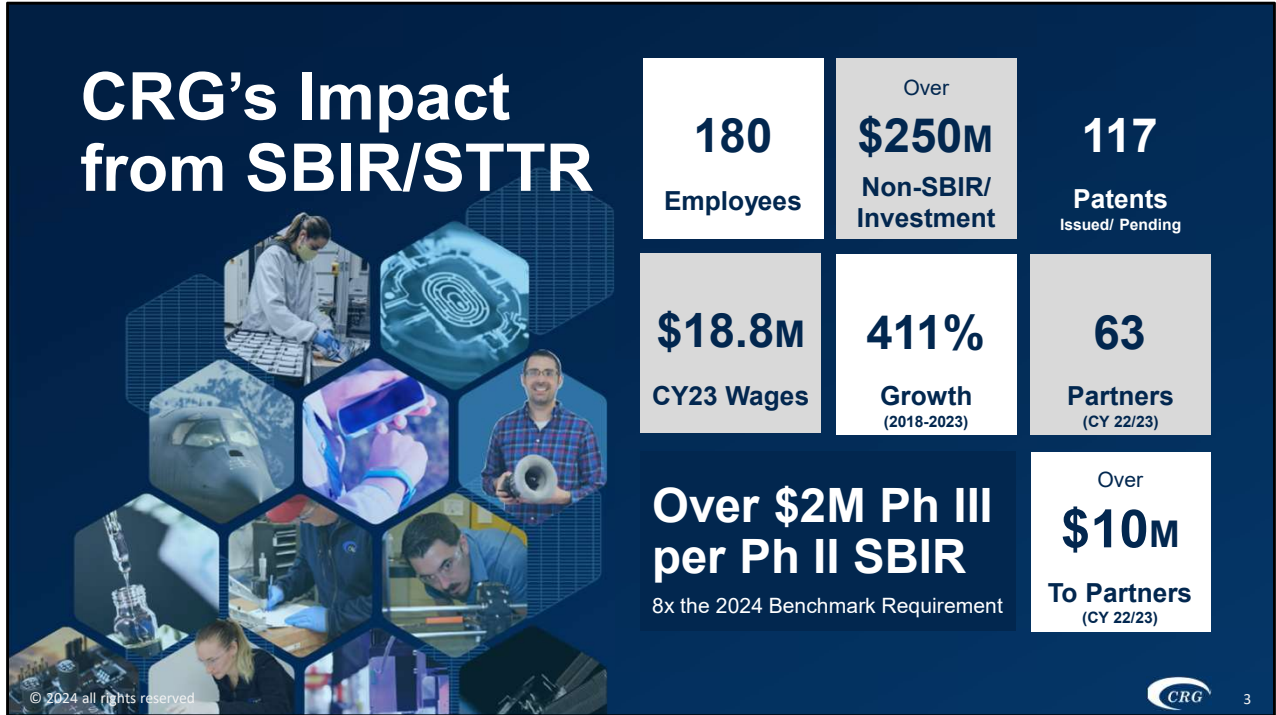
# DOING DEFENSE DIFFERENTLY™

Chris Hemmelgarn  
President  
Cornerstone Research Group

1. Thank you for the opportunity to participate in this event, we are excited to share our story and how our SBIR work is impacting some of the most critical areas for our nation's security.
2. To start off, I would like to take a minute to explain CRG's business model and how we transition our SBIR derived technology.

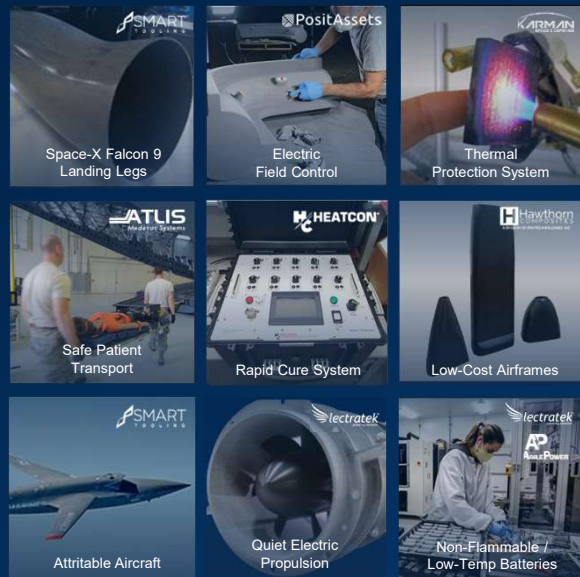
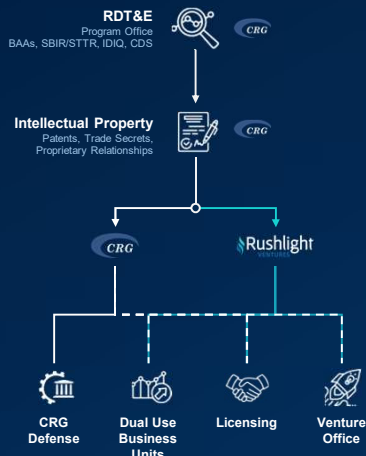


1. CRG has evolved to become the innovation engine at the heart of a broader ecosystem that is optimized to transition SBIR derived technology while protecting the CRG team that is optimized to deliver disruptive capabilities to the warfighter.
2. Our spinoff model of forming dual-use, product focused businesses provides a method to raise investment from angel and institutional investors to accelerate transition and “graduate” technologies into products while preserving the innovation engine tailored to support the Department of Defense
3. 13 organizations, at varying stages of maturity, have been formed from the results of CRG’s efforts.
4. These spinoff organizations are helping to accelerate CRG’s strong performance against the new SBIR eligibility benchmarks, with only 24% of the enterprise revenue in 2023 coming from SBIR.



1. The RLA enterprise has created significant returns for the SBIR program by executing over \$250 million in Phase III development work, product sales, and investments from angel and institutional investors.
2. While CRG does have a strong SBIR focus, only 34% of the RLA enterprise sales were from SBIR funding over the last 10 years, a percentage that will continue to decrease as we grow the spinoff organizations.
3. The RLA enterprise has grown to 180 employees and has collaborated with 63 different partner organizations in just the last 2 years, 13 of these being Universities from around the country.
4. This level of collaboration over the last 2 years includes over \$10M of the enterprise revenue being outsourced to these partners.
5. CRG has also generated over \$2M in Phase III funding for every Phase II SBIR over the 10-year eligibility period, which is over 8 times greater than the requirement defined by the new SBIR eligibility benchmarks.

# New Capabilities Delivered



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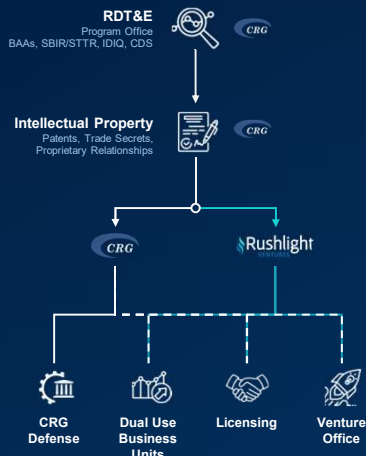


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1. Delivering disruptive solutions typically does not result from a single Phase I and Phase II SBIR program, they are often the result of a non-linear, combinatorial innovation process that leverages knowledge gained across programs that, when combined, yield a result of much greater value than the individual technologies on their own.
2. For example, the thermal protection systems, in the upper right, are made with CRG's MG resin system that was discovered in a failed experiment on a separate adhesives program where our team recognized the potential for this material in making carbon-carbon composites
3. More than \$30M in funding and over 10 years of development was needed to mature this newly discovered material to a point where it was ready for transition.
4. The performance offered by these materials led to the sale of this IP portfolio to Karman Space and Defense in 2022 with the intent to introduce these materials into programs of record. Karman has already established a pipeline of approximately \$20M in contracts that was made possible by their acquisition of CRG's MG resin IP portfolio.
5. The upper left image references an example where CRG's Smart Tooling is used to manufacture the landing legs for the SpaceX Falcon 9 rocket.

6. The materials to create this technology came from a program focused on a unique contact lens application and was subsequently leveraged into a 2004 Air Force SBIR to demonstrate a method to manufacture the JSF inlet in a single piece
7. This same Smart Tooling product is also being used to make composites for several military platforms including the XQ-58 attritable aircraft from Kratos and the Cleaver low-cost, palletized munition with Zone 5

# New Capabilities Delivered



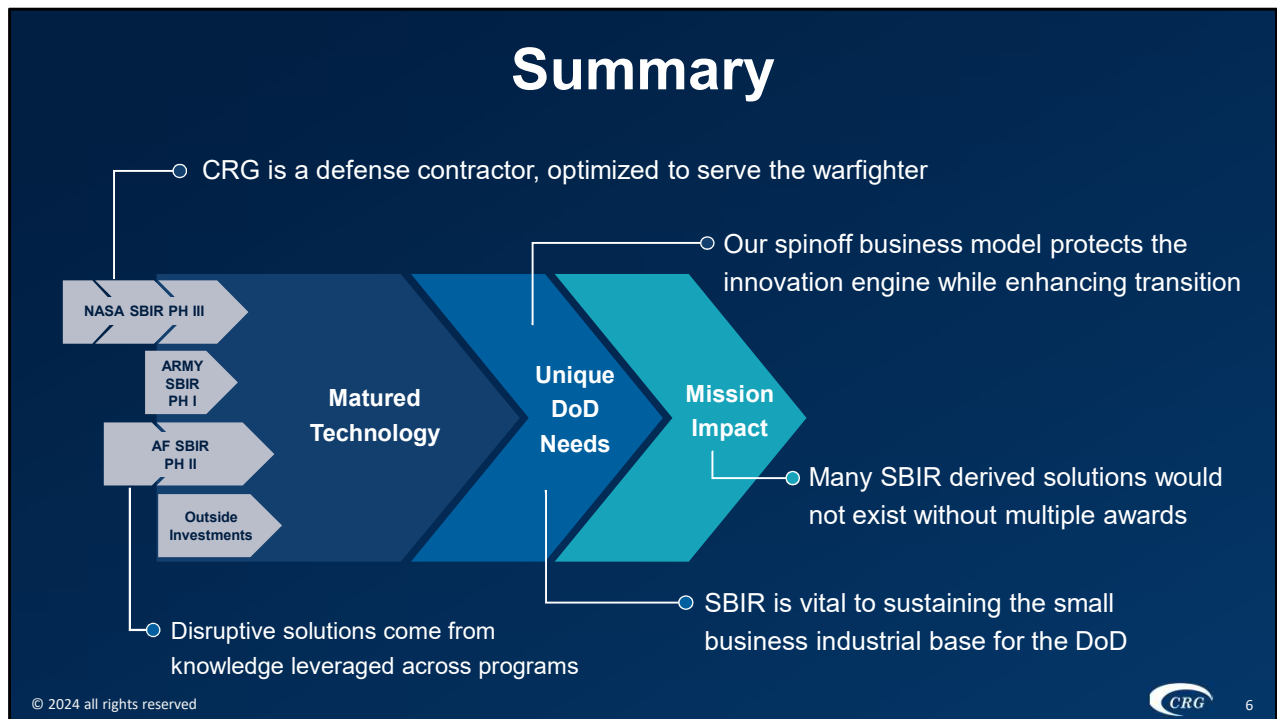
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9. The image in the bottom center is an example of CRG's quiet electric propulsion technology that has been designed into three different military aircraft, 2 of which have been given an X-plane designation and the third now conducting demonstrations with user groups
10. Our ability to design these propulsion systems came from a SBIR program with the Office of Naval Research for developing quiet HVAC fans for shipboard cooling
11. As you can see from the images on this slide, CRG and its spinoff organizations are focused on delivering real hardware into applications addressing our nations most critical national security priorities.
12. None of the examples shown would have been possible without the funding support of multiple SBIR programs and the ability to leverage knowledge gained across program areas

# Summary



1. CRG is a defense contractor dedicated to delivering disruptive capabilities to the warfighter.
2. Our business model enables us to accelerate transition by “graduating” mature technology products into spinoff organizations where capital can be raised from third party investors, better aligning transition timeline with investor expectations
3. However, for disruptive solutions to occur, a diverse portfolio of tech and know-how is needed within CRG that can support combinatorial innovation by leveraging this know-how across programs and domains
4. Without multiple SBIR awards many SBIR derived solutions would not exist today. Limiting the number of SBIR awards for a single organization would have a significant negative impact on the quality of innovation that can be provided to the U.S. Government under the SBIR program.
5. It is more important that SBIR organizations are held accountable for transitioning their technology to ensure the Government is getting good value from its investments, which is why CRG supports the new SBIR eligibility benchmark for Phase III funding per Phase

II award that was introduced in the last SBIR reauthorization

6. Transitioning SBIR derived technology products takes significant resources well beyond those provided in a Phase I and Phase II SBIR. In most cases, we have found it can take 8 to 10 years and \$20M to \$30M in funding to fully mature, qualify and scale production for fielding systems with the Department of Defense.
7. Furthermore, successful transition can only happen with the support of a champion in the Government that can facilitate the required processes for procurement.
8. In closing, it is also important to understand how the use of SBIR funding differs between Government organizations. For the DoD, the SBIR program is used to sustain a small business industrial base that is highly specialized to address the DoD's unique requirements. If the DoD were to use the SBIR program as just a "Seed Fund," it would eliminate many small businesses that are directly supporting some of the highest priority areas for our nation's security.
9. I thank you for the opportunity to share our story and look forward to answering your questions.



# THANK YOU

Chris Hemmelgarn  
hemmelgarncd@crgrp.com  
937-320-1877

