

**NATIONAL SECURITY ASSESSMENT:
U.S. CARTRIDGE AND PROPELLANT ACTUATED DEVICE INDUSTRY
4th Report**



SCOPE OF ASSESSMENT

The U.S. Department of Commerce, Bureau of Industry and Security (BIS), Office of Technology Evaluation (OTE), in coordination with the CAD/PAD Joint Program Office, Naval Surface Warfare Center, Indian Head, is conducting a national security assessment of the U.S. cartridge and propellant actuated device (CAD/PAD) industry and its supply chains. The principal goal of this data collection is to update industry and government officials on the underlying health and competitiveness of this defense critical industry, and to ensure the ability of the industry to support defense missions and programs.

RESPONSE TO THIS SURVEY IS REQUIRED BY LAW

A response to this survey is required by law (50 U.S.C. app. Sec. 2155). Failure to respond can result in a maximum fine of \$10,000, imprisonment of up to one year, or both. Information furnished herewith is deemed confidential and will not be published or disclosed except in accordance with Section 705 of the Defense Production Act of 1950, as amended (50 U.S.C App. Sec. 2155). Section 705 prohibits the publication or disclosure of this information unless the President determines that its withholding is contrary to the national defense. Information will not be shared with any non-government entity, other than in aggregate form. The information will be protected pursuant to the appropriate exemptions from disclosure under the Freedom of Information Act (FOIA), should it be the subject of a FOIA request.

Notwithstanding any other provision of law, no person is required to respond to nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number.

BURDEN ESTIMATE AND REQUEST FOR COMMENT

Public reporting burden for this collection of information is estimated to average 12 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information to BIS Information Collection Officer, Room 6883, Bureau of Industry and Security, U.S. Department of Commerce, Washington, D.C. 20230, and to the Office of Management and Budget, Paperwork Reduction Project (OMB Control No. 0694-0119), Washington, D.C. 20503.

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TABLE OF CONTENTS	
I	General Instructions
II	Definitions
III	Who Must Respond to this Survey
IV	Product Codes
1	Company Information
2	Facilities
3	Closed/Sold Facilities
4	Production Capabilities
5	Inventory and Order Backlog
6	Suppliers/Subcontractors
7	Sales
8	Exports
9	Competitive Prospects
10	Supply Chain Issues
11	Workforce
12	Financials
13	Mergers & Acquisitions/Joint-Ventures
14	Capital Expenditures
15	Research and Development
16	Customer Capabilities
17	U.S. Government Policies
18	Effectiveness of Previous Assessments
19	Certification
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Section I GENERAL INSTRUCTIONS	
A.	Your company is required to complete this survey using the Excel-based survey template, which can be downloaded from the U.S. Department of Commerce, Bureau of Industry and Security (BIS) website at www.bis.doc.gov/cadpad_survey . For your convenience, a PDF version of the survey is available on the BIS website to aid internal data collection. DO NOT use the PDF to submit your company's response to BIS.
B.	If information is not available from your records in the form requested, you may furnish estimates. Please indicate in the comment box on the page when you use an estimate.
C.	Surveys that are not fully completed will be returned for completion. Use comment boxes to provide any information to supplement responses provided in the survey form. Make sure to record a complete answer in the cell provided, even if the cell does not appear to expand to fit all the information. DO NOT COPY AND PASTE RESPONSES WITHIN THIS SURVEY. Survey inputs should be made manually, by typing in responses or by use of a drop-down menu. The use of copy and paste can disrupt the data collection process. If your survey response is corrupted as a result of copy and paste responses, a new survey will be sent to you for immediate completion.
D.	Important: This survey may not be submitted in paper form. Please submit the completed survey document in Microsoft Excel (.xls) format at CADPADsurvey@bis.doc.gov
E.	Report calendar year data, unless otherwise specified in a particular question.
F.	Questions regarding this survey should be directed to: CADPADsurvey@bis.doc.gov or Anna Bruse, Trade and Industry Analyst, U.S. Department of Commerce, (202) 482-7980 Erika Maynard, Trade and Industry Analyst, U.S. Department of Commerce, (202) 482-5572 Temporary Employee, Trade and Industry Analyst, U.S. Department of Commerce, (202) 482-xxxx
G.	For questions regarding the overall assessment or the Office of Technology Evaluation (OTE), please contact: Brad Botwin, Director, Industrial Studies Office of Technology Evaluation, Room 1093 U.S. Department of Commerce 1401 Constitution Avenue, NW Washington, DC 20230 Phone: (202) 482-4060 Please do not submit completed surveys to this address; all surveys must be submitted electronically.
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Section II		DEFINITIONS
Cartridge	An energy source utilizing one or more energetic materials such as pyrotechnic, propellant or explosive ingredients.	
Cartridge Actuated Device (CAD)	A device releasing energy to perform a controlled system or work function.	
Capacity Utilization	The extent to which an enterprise uses its total annual installed manufacturing capacity.	
Cost Premium	For the purposes of the survey, the percentage value above or below the base cost of the part/component.	
Defense Shipments	Direct and indirect military shipments, including domestic and international shipments for military use. These include: 1) weapon systems, support equipment, and all other defense related end-use devices, identified by purchase orders bearing a DO or DX rating and/or a contract number from the Department of Defense, Nuclear Regulatory Commission, Central Intelligence Agency, Federal Aviation Administration, National Security Agency or National Aeronautics and Space Administration; 2) the orders of your customers which you can identify as producing products for defense purposes; 3) devices tested and certified to military specifications.	
Manufacturing Materials (Raw Materials)	Any material or substance used in or used to facilitate the manufacturing process, a concomitant constituent, or a byproduct constituent produced during the manufacturing process, which is present in or on the finished device/product as a residue or impurity not by design or intent of the manufacturer.	
Obsolescence	A lack of availability of an item or raw material resulting from statutory and process changes, as well as new designs. Obsolescence refers to the process or condition by which a piece of equipment becomes no longer useful, or a form and function no longer current or available for production or repair.	
Offset Agreements	Offsets are defined as industrial or commercial compensation practices required by foreign governments as a condition of purchase of military imports. Common types of offsets include licensed production of the defense item (or parts thereof) in the purchasing country, technology transfer, foreign investment, and countertrade.	
Propellant Actuated Device (PAD)	A rocket powered device releasing controlled propellant energy to perform a work function. This device provides propulsion for acceleration/deceleration, stabilization, divergence or deployment.	
Research and Development	Includes basic and applied research and product development in the sciences and in engineering, and design and development of prototype products and processes. For the purposes of this questionnaire, research and development included activities carried on by persons trained, either formally or by experience, in the physical sciences including related engineering, if the purpose of the activity is to do one or more of the following things: 1. Pursue a planned search for new knowledge, whether or not the search has reference to a specific application. 2. Apply existing knowledge to problems involved into the creation of a new product or process, including work required to evaluate possible uses. 3. Apply existing knowledge to problems involved in the improvement of a product or process.	
Shipments	Domestically produced products shipped by your firm during the reporting period. Such shipments should include inter-plant transfers, but should exclude shipments of products produced by other manufacturers for resale under your brand name. Do not adjust for returned shipments. (See definition of Defense Shipments above.)	
Single-Source	A company or facility that is designated as the only accepted source for the supply of parts, components, materials, or services, even though other sources with equivalent technical know-how and production capability may exist.	
Sole-Source	A company or facility that is the only source for the supply of parts, components, materials, or services. No alternative domestic or foreign suppliers exist other than the current supplier.	
United States	Includes the fifty States, Puerto Rico, District of Columbia, and the Virgin Islands.	
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Section III		WHO MUST RESPOND	
A.	Has your company manufactured or integrated/assembled Cartridge and/or Propellant Actuated Devices for defense end-uses in the United States between 2005-2011?		
B.	Has your company manufactured or integrated/assembled Cartridge and/or Propellant Actuated Devices for commercial end-uses in the United States between 2005-2011?		
EXEMPTION FROM SURVEY			
If you selected "No" to both the statements above, your company may be exempt from completing this U.S. Department of Commerce survey. If you think your company is exempt, call the contacts listed in the General Instructions section of this survey.			
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Section IV		PRODUCT CODES
1.	Aircrew Escape Propulsion System	A rocket powered device employed in aircrew escape systems to perform such functions as propulsion, acceleration, deceleration, ejection seat divergence, man-seat separation, parachute deployment, stabilization, etc., including rocket catapults and underseat rocket motors.
2.	Impulse Cartridges	A cartridge-type item employing propellant or explosive materials to release energy. This category includes fire extinguisher cartridges, ignition elements, squibs, detonators and blasting caps, but excludes cartridges that incorporate pyrotechnic delay material(s) to affect the timing of the output charge initiation, see product code #4. Also exclude aircraft stores release cartridges and aircraft cartridges and aircraft countermeasure cartridges such as chaff and flare ejection cartridges and sonobouy ejection cartridges (see Product Code #5).
2.A	Electrically Initiated Cartridges	Devices using electrical energy to initiate the energetic material.
2.B	Percussion Initiated Charges	Devices using percussion primers to initiate the energetic material.
3.	Initiators (Impulse)	Devices employing energetic materials such as propellants or explosives to: generate the initial or sustaining pressure within a ballistic gas system or to initiate a signal transmission line such as shielded mild detonating cords, thin layered explosive transmission lines, etc. Exclude cartridge type devices which are employed in igniters or other explosive devices to ignite propellants or explosives, as well as, initiators which affect the timing of the output charge initiation by use of pyrotechnic delay material(s) (see #4, below).
4.	Delay Cartridges and Delay Initiators	Devices similar to the above #2A, #2B AND #3, that incorporates pyrotechnic delay material(s) to effect timing of the output charge initiation. This category includes electric and percussion primed delay cartridges and delay initiators.
5.	Aircraft Stores/Flares/Chaff/Sonobuoy Ejection Cartridges	Cartridges and ignition elements, employing energetic materials such as propellants and explosives, used to eject bombs, sonobuoys, missiles, etc., from combat aircraft. This category includes cartridges to launch or eject aircraft flares or chaff for anti-aircraft missile countermeasures, but not the flares themselves.
6.	Detonating Cords and Charges	This category includes the following devices: shielded mild detonating cord, mild detonating cord, linear shape charge, flexible linear shape charge, mild detonating fuse, and thin layered explosive lines. Also included in this group are transfer assemblies and other assemblies that employ these type of cords or lines, (for example, window severance assemblies). Exclude bulk explosives.
7.	Cutters	Devices which employ energetic materials and a cutting blade to sever a bolt, wire, cable suspension line, etc.
8.	Catapults, Thrusters, and Removers	Devices using energetic materials and employing captured or ejected telescoping-type tubes to perform functions such as separation, ejection, thrusting, movement, etc.
9.	Automatic Inflators	Automatic Inflators
10.	Gas Generators	Gas Generators
11.	Automotive Airbag Initiators	Automotive Airbag Initiators
12.	Laser Initiated Cartridges, Detonators, and Initiators	Laser Initiated Cartridges, Detonators, and Initiators
13.	Rocket Motor Igniters	Rocket Motor Igniters
14.	Other	This category includes all other cartridges, cartridge actuated devices, and other pyrotechnic devices of similar design and used in a similar manner.
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Section 1.a		COMPANY INFORMATION			
A.	Company Name				
	Business Unit Responding to Survey				
	Street Address				
	City				
	State				
	Zip Code				
	Phone Number				
	Fax Number				
	Website				
B.	Point of Contact(s) regarding this survey:				
		Name	Title	E-mail	Phone Number
C.	My company is headquartered in:				
	My company is:				
		Parent Company Name	Address	City	State/Province
					Country
	My company is Publicly traded/Private held:				
	My parent company is Publicly traded/Private held:				
D.	Indicate what year your company or business unit was acquired by the parent company, if applicable.				
	Comments:				
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Section 1.b		COMPANY INFORMATION (cont.)	
A.	What percent of your parent company/company's sales are CAD/PAD-related?		
B.	What percent of your business unit sales operations are CAD/PAD-related?		
C.	Does your business unit partake in additional lines of business? If "yes", indicate the business lines below.		
		Business Line	
	1.		
	2.		
3.			
Comments:			
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Section 2		FACILITIES				
Identify the location of each of your CAD/PAD manufacturing, assembly, or integration facilities currently in operating IN the United States.						
A.	ID #	Facility Name	Street Address	City	State	Zip Code
	US - 1					
	US - 2					
	US - 3					
	US - 4					
	US - 5					
	US - 6					
	US - 7					
	US - 8					
	US - 9					
	US - 10					
Identify the location of each of your CAD/PAD manufacturing, assembly, or integration facilities currently in operating OUTSIDE the United States.						
B.	ID #	Facility Name	Street Address	City	State/Province	Country
	Non-US - 1					
	Non-US - 2					
	Non-US - 3					
	Non-US - 4					
	Non-US - 5					
	Non-US - 6					
	Non-US - 7					
	Non-US - 8					
	Non-US - 9					
	Non-US - 10					
Comments:						
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Section 3							
CLOSED/SOLD FACILITIES							
Identify the location of each of your CAD/PAD-related manufacturing, assembly, and/or integration facilities IN the United States that have been closed or sold since January 1, 2007. Provide the reason for the closure or sale.							
A.	ID #	Facility Name	City	State	Zip Code	Year of Closure/Sale	Reason for Closure/Sale
	Closed/Sold US - 1						
	Closed/Sold US - 2						
	Closed/Sold US - 3						
	Closed/Sold US - 4						
	Closed/Sold US - 5						
	Closed/Sold US - 6						
	Closed/Sold US - 7						
	Closed/Sold US - 8						
	Closed/Sold US - 9						
	Closed/Sold US - 10						
Identify the location of each of your CAD/PAD-related manufacturing, assembly, and/or integration facilities OUTSIDE the United States that have been closed or sold since January 1, 2007. Provide the reason for the closure or sale.							
B.	ID #	Facility Name	City	State/Province	Country	Year of Closure/Sale	Reason for Closure/Sale
	Closed/Sold Non-US - 1						
	Closed/Sold Non-US - 2						
	Closed/Sold Non-US - 3						
	Closed/Sold Non-US - 4						
	Closed/Sold Non-US - 5						
	Closed/Sold Non-US - 6						
	Closed/Sold Non-US - 7						
	Closed/Sold Non-US - 8						
	Closed/Sold Non-US - 9						
	Closed/Sold Non-US - 10						
Comments:							
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Section 4.a		PRODUCTION CAPABILITIES				
For each CAD/PAD product below, indicate whether you have manufactured, integrated, and/or assembled the product since January 1, 2007. Identify the facility or facilities where each product is/was manufactured (based on responses to Section X). If your company has ceased production of a product since 2007, provide the year the production ceased and the reason for doing so.						
CAD/PAD Product	Manufacture/Integrate/Assemble Product?	Facility of Manufacture/Integration/Assembly			Year of Cease in Production	Reason for Cease in Production
		1	2	3		
A. 1. Aircrew Escape Propulsion System						
2. Impulse Cartridges						
2.A Electrically Initiated Impulse Cartridges						
2.B Percussion Initiated Impulse Charges						
3. Initiators (Impulse)						
4. Delay Cartridges and Delay Initiators						
5. Aircraft Stores/Flares/Chaff/Sonobuoy Ejection						
6. Detonating Cords and Charges, and Linear Charges						
7. Cutters						
8. Catapults, Thrusters, and Removers						
9. Automatic Inflators						
10. Gas Generators						
11. Automotive Airbag Initiators						
12. Laser Initiated Cartridges, Detonators, and Initiators						
13. Rocket Motor Igniters						
14.A Other (specify)						
14.B Other (specify)						
14.C Other (specify)						
B. Record the degree of compatibility of your Defense CAD/PAD-related product lines with Non-Defense customers and applications.						
Comments:						

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Section 4.b		PRODUCTION CAPABILITIES (cont.)		
<p>For the CAD/PAD products that your company does not currently manufacture, indicate whether your company could manufacture these products with your current equipment and facilities. In addition, using your company's 2011 production as a baseline, estimate the lead time required to restart production of each product area. Finally, explain your estimate for lead time. For the purpose of this estimate, make the following assumptions:</p> <p>1) Existing U.S. production facilities are to be operated at maximum practical productive capacity; 2) Labor availability reflects normal local market conditions; 3) Material availability reflects normal local market conditions; 4) Facilities operate at the maximum rate possible given technological constraints; and 5) The product area in question is given priority over other products that may use the same manufacturing resources.</p>				
CAD/PAD Product	Could Manufacture?	Lead Time	Explain	
1. Aircrew Escape Propulsion System				
2. Impulse Cartridges				
2.A Electrically Initiated Impulse Cartridges				
2.B Percussion Initiated Impulse Charges				
3. Initiators (Impulse)				
4. Delay Cartridges and Delay Initiators				
5. Aircraft Stores/Flares/Chaff/Sonobuoy Ejection Cartridges				
6. Detonating Cords and Charges, and Linear Charges				
7. Cutters				
8. Catapults, Thrusters, and Removers				
9. Automatic Inflators				
10. Gas Generators				
11. Automotive Airbag Initiators				
12. Laser Initiated Cartridges, Detonators, and Initiators				
13. Rocket Motor Igniters				
14.A Other (specify)				
14.B Other (specify)				
14.C Other (specify)				
Comments:				
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Section 5		INVENTORY AND ORDER BACKLOG	
A.	Does your company keep inventory of CAD/PAD finished products, components/manufacturing materials, or both? Explain below.		
B.	What is the average inventory, in months, for finished CAD/PAD products maintained in inventory? Explain below.		
C.	What is the average inventory, in months, for CAD/PAD components and manufacturing materials maintained in inventory? Explain below.		
D.	What is your average order backlog for finished CAD/PAD products, in months? Explain below.		
E.	Estimate the percent capacity utilization rate (see definitions) for your company's CAD/PAD production, integration, and/or assembly from 2007-2011.	2007	
		2008	
		2009	
		2010	
		2011	
Comments:			
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Section 6						U.S. SUPPLIERS/SUBCONTRACTORS					
Identify your company's most important U.S. suppliers/subcontractors for CAD/PAD operations. For each supplier name, indicate the product, service, manufacturing material and/or equipment supplied, location of the supplier, and whether the supplier is single or sole source.											
<i>Note: Include internal/same company suppliers.</i>											
A.		U.S. Supplier/Subcontractor Name	Product/Service/Equipment	City	State	Single or Sole Source?					
	1.										
	2.										
	3.										
	4.										
	5.										
	6.										
	7.										
	8.										
	9.										
	10.										
NON-U.S. SUPPLIERS/SUBCONTRACTORS											
Identify your facility/plant's most important Non-U.S. suppliers/subcontractors for CAD/PAD operations. For each supplier name, indicate the product, service, manufacturing material and/or equipment supplied, location of the supplier, and whether the supplier is single or sole source.											
<i>Note: Include internal/same company suppliers.</i>											
B.		Non-U.S. Supplier/Subcontractor Name	Product/Service/Equipment	City	Country	Single or Sole Source?					
	1.										
	2.										
	3.										
	4.										
	5.										
	6.										
	7.										
	8.										
	9.										
	10.										
Comments:											
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Section 7		SALES											
Report your total U.S. defense and non-defense sales for each of the CAD/PAD devices listed for the years 2007-2011. Then, indicate whether your 2012-2016 sales will "increase", "decrease", or "remain the same" from the drop-down menu provided. Sales to NASA and other non-defense USG agencies should be included in defense sales.													
Note: Record in \$ Thousands, e.g. \$12,000.00 = survey input of \$12													
A.	Products	2007		2008		2009		2010		2011		2012-2016*	
		Defense	Non-Defense	Defense	Non-Defense	Defense	Non-Defense	Defense	Non-Defense	Defense	Non-Defense	Defense	Non-Defense
	1. Aircrew Escape Propulsion System												
	2.A Electrically Initiated Impulse Cartridges												
	2.B Percussion Initiated Impulse Charges												
	3. Initiators (Impulse)												
	4. Delay Cartridges and Delay Initiators												
	5. Aircraft Stores/Flares/Chaff/Sonobuoy Ejection Cartridges												
	6. Detonating Cords and Charges												
	7. Cutters												
	8. Catapults, Thrusters, and Removers												
	9. Automatic Inflators												
	10. Gas Generators												
	11. Automotive Airbag Initiators												
	12. Laser Initiated Cartridges, Detonators, and Initiators												
	13. Rocket Motor Igniters												
	14.A Other (specify)												
	14.B Other (specify)												
	14.C Other (specify)												
	Total Defense and Non-Defense Sales												
* If data is not available, provide estimates.													
Comments:													

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Section 8.a		EXPORTS											
Report your total Non-U.S. defense and non-defense exports for each of the CAD/PAD devices listed for the years 2007-2011. Then, indicate whether your 2012-2016 exports will "increase", "decrease", or "remain the same", from the drop-down menu provided. Include exports to foreign defense or military applications (FMS) as defense shipments.													
Note: Record in \$ Thousands, e.g. \$12,000.00 = survey input of \$12													
A.	Products	2007		2008		2009		2010		2011*		2012-2016*	
		Defense	Non-Defense	Defense	Non-Defense	Defense	Non-Defense	Defense	Non-Defense	Defense	Non-Defense	Defense	Non-Defense
	1. Aircrew Escape Propulsion System												
	2. Impulse Cartridges												
	2.A Electrically Initiated Impulse Cartridges												
	2.B Percussion Initiated Impulse Charges												
	3. Initiators (Impulse)												
	4. Delay Cartridges and Delay Initiators												
	5. Aircraft Stores/Flares/Chaff/Sonobuoy Ejection Cartridges												
	6. Detonating Cords and Charges												
	7. Cutters												
	8. Catapults, Thrusters, and Removers												
	9. Automatic Inflators												
	10. Gas Generators												
	11. Automotive Airbag Initiators												
	12. Laser Initiated Cartridges, Detonators, and Initiators												
	13. Rocket Motor Igniters												
	14.A Other (specify)												
	14.B Other (specify)												
	14.C Other (specify)												
	Total Defense and Non-Defense Exports												
* If data is not available, provide estimates.													
Comments:													

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Section 8.b		EXPORTS				
Using the drop-downs provided, identify the top FIVE end-user countries for your company's CAD/PAD exports by total dollar sales for each product below. Inputs should reflect 2011 year data. (Note: Include FMS Sales)						
Products		Country 1	Country 2	Country 3	Country 4	Country 5
A.	1. Aircrew Escape Propulsion System					
	2. Impulse Cartridges					
	2.A Electrically Initiated Impulse Cartridges					
	2.B Percussion Initiated Impulse Charges					
	3. Initiators (Impulse)					
	4. Delay Cartridges and Delay Initiators					
	5. Aircraft Stores/Flares/Chaff/Sonobuoy Ejection Cartridges					
	6. Detonating Cords and Charges					
	7. Cutters					
	8. Catapults, Thrusters, and Removers					
	9. Automatic Inflators					
	10. Gas Generators					
	11. Automotive Airbag Initiators					
	12. Laser Initiated Cartridges, Detonators, and Initiators					
13. Rocket Motor Igniters						
14.A Other (specify)						
14.B Other (specify)						
14.C Other (specify)						
Comments:						

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Section 9.a		COMPETITIVE PROSPECTS	
A.	How do you foresee the competitive prospects for your firm's U.S.-based CAD/PAD production operations over the next five years? Explain below.		
B.	How is your company impacted by recent consolidations among competitors? Explain below.		
C.	Describe the actions your company has taken in the LAST 5 years to improve its competitiveness.		
D.	Describe the actions your company plans to take to improve its competitiveness over the NEXT 5 years .		
Comments:			
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Section 9.b COMPETITIVE PROSPECTS (cont.)				
A.	List your primary domestic competitors and their location:			
		Domestic Competitor Name	City	State
	1.			
	2.			
	3.			
	4.			
B.	List your primary international competitors and their location:			
		International Competitor Name	City	Country
	1.			
	2.			
	3.			
	4.			
G.	How would you assess your competitiveness against international competitors over the LAST 5 YEARS . Explain below.			
H.	How would you assess your projected competitiveness against international competitors over the NEXT 5 YEARS . Explain below.			
Comments:				
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Section 10.a		SUPPLY CHAIN ISSUES	
How have imports of CAD/PADs into the U.S. (including those for your own use) positively and/or negatively affected your domestic manufacturing and/or integration/assembly operations?			
A.	Effect	Explain	
	Positive Factors		
	Negative Factors		
Have you experienced any shortages, drastic cost increases, or supply interruptions of materials, parts and components or other essential supplies in the last five years that adversely affected, or that continue to adversely effect your U.S. CAD/PAD manufacturing/integration/assembly operations? If "Yes", indicate the items and explain the situation and how it was resolved.			
B.	Item	Impacted?	Explain
	a. Explosive Components		
	b. Explosive Ingredients		
	c. Explosive Materials		
	d. Legacy Propellants		
	e. Raw Materials		
	f. Parts/Components		
	g. Subcomponents		
	h. Testing Materials		
	i. Other (specify)		
	j. Other (specify)		
	k. Other (specify)		
Have any of the following factors impacted your manufacturing, integration and/or assembly operations in the last five years that adversely affected, or that continue to adversely affect your U.S. manufacturing/integration/assembly operations? If "Yes", indicate which factors and explain its effect.			
C.	Factor	Impacted?	Explain
	a. Commerce Control List (CCL) Regulations		
	b. Department of Transportation Regulations (e.g. "Competent Authority")		
	c. Environmental Protection Agency		
	d. Foreign Military Sales		
	e. International Traffic in Arms Regulations (ITAR)		
	f. N-ray Testing		
	g. Obsolescence		
	h. Testing Facilities		
	i. Vibration Testing		
	j. Other (specify)		
	k. Other (specify)		
l. Other (specify)			
Comments:			
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act			

Section 10.b SUPPLY CHAIN ISSUES (cont.)							
<p>Are you required to utilize parts and components that are deemed obsolete for products you sell into the CAD/PAD supply chain? If "Yes", indicate the key obsolete parts/components below, the supplier's name and location. Then, estimate the percentage cost premium (see definitions) for each item and whether you have difficulty obtaining the part/component. Finally, explain your answer.</p> <p>Note: For foreign supplier locations, only indicate country.</p>							
A.	Obsolete Part/Component	Supplier Company	State	Country	Cost Premium (%)	Difficulty Obtaining Part?	Explain
1.							
2.							
3.							
4.							
5.							
<p>Identify the raw materials/chemicals that are difficult to obtain that your company uses in the manufacture/integration/assembly of products you sell into the CAD/PAD supply chain? Indicate the material below, the supplier's name and location. Finally, indicate whether there is an alternate source available for each material and explain why you have difficulty obtaining the material.</p> <p>Note: For foreign supplier locations, only indicate country.</p>							
B.	Manufacturing Material	Supplier Company	State	Country	Alternate Source Available?	Explain	
1.							
2.							
3.							
4.							
5.							
Comments:							
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act							

Section 11.a		WORKFORCE						
Record the total number of full time equivalent (FTE) employees, including consultants, for your U.S. CAD/PAD operations by occupational type for the 2007-2011 period. Do not double count personnel who may perform cross-operational roles. Estimates are acceptable.								
<i>Note: Lines a. through o. should equal p. (Total Full Time Equivalent Employees)</i>								
A.	Professional Occupations		2007	2008	2009	2010	2011*	
	a.	Contracts Administration						
	b.	Design Engineering						
	c.	Finance/Accounting						
	d.	IT/Network Engineers						
	e.	Management						
	f.	Manufacturing/Production Line Workers						
	g.	Marketing & Sales						
	h.	Program Management						
	i.	Quality Control						
	j.	Research and Development Staff						
	k.	Scientists						
	l.	Testing						
	m.	Other (specify)						
	n.	Other (specify)						
o.	Other (specify)							
	p.	Total Full Time Equivalent (FTE) Employees						
What is the number and current experience profile of your design and engineering technical staff? Identify only design engineering staff, excluding engineers in support of manufacturing, testing, quality, and other operations.								
B.	Technical Occupations		Number Employed	< 5 Years of Experience	6 to 10 Years of Experience	11 to 20 Years of Experience	21 to 30 Years of Experience	> 30 Years of Experience
	a.	Mechanical						
	b.	Electrical						
	c.	Chemical						
	d.	Laser						
Comments:								
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act								

Section 11.b		WORKFORCE (cont.)					
Provide the number of your company's CAD/PAD related research and development staff for 2011, that fall within the functions and age ranges listed in the table below.							
Note: Non-U.S. Citizens include Green Card and H1-B Visa Holders.							
A.			< 30 Years Old	30 to 40 Years Old	40 to 50 Years Old	50 to 60 Years Old	> 60 Years Old
	a.	U.S. Citizens (Development Staff, i.e. Engineers)					
	b.	Non-U.S. Citizens (Development Staff, i.e. Engineers)					
	c.	U.S. Citizens (Research Staff, i.e. Scientists)					
	d.	Non-U.S. Citizens (Research Staff, i.e. Scientists)					
Provide the number of your company's CAD/PAD related research and development staff who hold advanced degrees as of 2011. Do not include outside consultants not permanently employed by your firm.							
B.			B.A./B.S.	Masters	Ph.D. or Higher		
	a.	U.S. Citizens (Development Staff, i.e. Engineers)					
	b.	Non-U.S. Citizens (Development Staff, i.e. Engineers)					
	c.	U.S. Citizens (Research Staff, i.e. Scientists)					
	d.	Non-U.S. Citizens (Research Staff, i.e. Scientists)					
Comments:							
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act							

Section 11.c		WORKFORCE (cont.)	
		Difficult to Hire	Difficult to Retain
A.	For your company, identify what CAD/PAD related professional occupations are the most difficult to hire and retain.	1.	
		2.	
		3.	
		4.	
B.	If your defense-related work were to decline or cease, could commercial work help retain workforce skills needed for future defense work? Explain below.		
C.	Identify your company's critical skills/competencies that are essential to your viability and long-term competitiveness of your CAD/PAD operations. Explain. Finally, on average, for the critical skills/competencies identified, how many months does it take to train a new employee?		
	Skills/Competencies	Explain	Months Training
1.			
2.			
3.			
4.			
5.			
D.	What is the typical process your company uses in training specialized engineers and scientists for CAD/PAD-related work?		
E.	Are there institutions or programs that your company relies on to provide training/education for newly hired employees?		
F.	Is your company sponsoring, or participating, in any university, state or U.S. Government programs to hire/recruit recent graduates? If "Yes", explain below.		
G.	What degree programs do you find most conducive to CAD/PAD-related work?		
Comments			

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Section 11.d		WORKFORCE (cont.)	
A.	In the last five years, have you experienced any labor concerns such as shortages of certain skills, excessive turnover, retirement of experienced workers, liability claims, etc. that adversely affect(ed) your CAD/PAD manufacturing or R&D operations? If "Yes", explain below.		
B.	Has your company had to increase staff to deal with U.S. Government regulations and policies? Explain below.		
Identify the certifications that your company currently has or is working towards below:			
C.	AMS (specify)		J-STD-001DS
	ANSI/ASQC Z1.4		MIL-Q-9858
	ANSI/ESD S20.20		MIL-STD-45662 A
	ANSI/ISO/IEC 17025		NADCAP (specify)
	DoD 5000		NCLS (specify)
	ISO 9000		SAE AS9003
	ISO 9001		SAE AS9100
	ISO 10012-1		Other (specify)
	ISO 14000		Other (specify)
	ISO TS16948		Other (specify)
* AMS (Aerospace Material Specifications)		* NADCAP (National Aerospace and Defense	
* ANSI (American National Standards Institute)		* Contractors Accreditation Program)	
* ASQ (American Society for Quality)		* NCLS (National Clinical Lab Specialist)	
* ISO (International Organization for Standards)		* SAE (SAE International, formerly the Society of Automotive Engineers)	
Comments			
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act			

Section 12.a		FINANCIALS				
Report select line items from your company's financial statement for years 2008-2011. From the drop-down indicate whether the reported income statement and balance sheet select line items are Business Unit/Division or Corporate/Whole Company financials.						
Note: Business Unit/Division financials are preferred.						
Note: Calendar year data is preferred.						
Source of Financial Line Items:						
Reporting Schedule:						
Income Statement (Select Line Items)		Record in \$ Thousands, e.g. \$12,000.00 = survey input of \$12				
		2007	2008	2009	2010	2011
A.	Net Sales (and other revenue)					
B.	Cost of Goods Sold					
C.	Research and Development Expense					
D.	Total Operating Income (Loss)					
E.	Earnings Before Interest and Taxes					
F.	Net Income					
Balance Sheet (Select Line Items)		Record in \$ Thousands, e.g. \$12,000.00 = survey input of \$12				
		2007	2008	2009	2010	2011
A.	Inventories					
B.	Total Current Assets					
C.	Total Assets					
D.	Total Current Liabilities					
E.	Total Liabilities					
F.	Retained Earnings					
G.	Total Owner's Equity					
Comments:						
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act						

Section 12.b		FINANCIALS (cont.)				
For your firm's CAD/PAD product operations, indicate the following financial line items for Defense and Non-Defense business for the years 2007 to 2011.						
CAD/PAD Business Operations						
Source of Financial Statement Line Items:						
Reporting Schedule:						
CAD/PAD Business Unit		Record in \$ Thousands, e.g. \$12,000.00 = survey input of \$12				
Income Statement (Select Line Items)		2007	2008	2009	2010	2011*
A.	Net Sales (and other revenue)					
B.	Cost of Goods Sold					
C.	Research and Development Expense					
D.	Total Operating Income					
E.	Defense Operating Income <i>[as a percent of D.]</i>					
F.	Non-Defense Operating Income <i>[as a percent of D.]</i>					
G.	Operating Profit/(Loss) of CAD/PAD unit					
H.	Earnings Before Interest and Taxes					
I.	Net Income					
CAD/PAD Business Unit		Record in \$ Thousands, e.g. \$12,000.00 = survey input of \$12				
Balance Sheet (Select Line Items)		2007	2008	2009	2010	2011*
A.	Inventories					
B.	Total Current Assets					
C.	Total Assets					
D.	Total Current Liabilities					
E.	Total Liabilities					
F.	Retained Earnings					
G.	Total Owner's Equity					
Comments:						
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act						

Section 12.c		FINANCIALS (cont.)
Use the space below to qualify with narrative any anomalies, transactions, litigation, or non-recurring one-time events reflected in your financial statement line items, e.g. reporting restatement, merger and acquisition, chapter 11, SEC investigation, etc.		
A.	2008	
B.	2009	
C.	2010	
D.	2011	
Comments:		
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act		

Section 13						MERGERS & ACQUISITIONS/JOINT-VENTURES			
<p>Did your company undergo any mergers and/or acquisitions from calendar years 2005-2011? If "Yes", identify your most significant mergers and/or acquisitions over the period. Then, record the subject entity's name, transaction type, entity's location, calendar year, and the primary objective of the deal.</p>									
A.		Entity Name	Transaction Type	Entity's Location	Year	Primary Objective			
	1.								
	2.								
	3.								
	4.								
	5.								
<p>Identify your company's current CAD/PAD-related joint venture relationships, including public/private R&D partnerships. Provide the name of the company/entity involved, indicating whether it is a U.S. or non-U.S. enterprise, and a description of the joint venture's purpose, e.g. patent licensing, co-production, product integration, after-market support, etc.</p>									
B.		Entity Name	U.S./Non-U.S.		Primary Objective of Relationship				
	1.								
	2.								
	3.								
	4.								
	5.								
Comments:									
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act									

Section 14		CAPITAL EXPENDITURES				
Record your capital expenditures corresponding to the select categories for the years 2007 to 2011.						
<i>Note: Lines b. through f. should equal 100%.</i>						
Source of Capital Expenditure Data:						
Capital Expenditure Reporting Schedule:						
Capital Expenditure Category		2007	2008	2009	2010	2011
A.	a. Total Capital Expenditures					
	b. Machinery, Equipment, and Vehicles <i>[as a percent of a.]</i>					
	c. IT, Computers, Software <i>[as a percent of a.]</i>					
	d. Land, Buildings, and Leasehold Improvements <i>[as a percent of a.]</i>					
	e. Other (specify) <i>[as a percent of a.]</i>					
	f. Other (specify) <i>[as a percent of a.]</i>					
	g. % of Total Capital Expenditures relating to CAD/PAD business lines <i>[as a percent of a.]</i>					
*If data is not available, provide estimates.						
From 2007-2011, rank the top five reasons for investment from 1 to 5 ("1" being the top reason). If the reasons identified below do not apply to all situations, please use "other" and specify.						
B.	a. Replace old equipment					
	b. Improve productivity					
	c. Expand capacity					
	d. Add new capability					
	e. Upgrade technology					
	f. Meet specific customer requirements					
	g. Comply with environmental or safety requirements					
	h. Other (specify):					
Comments:						
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act						

Section 15.a RESEARCH AND DEVELOPMENT											
Record your company's total research and development (R&D) dollar expenditures and the percentage of total R&D expenditures relating to Defense and Commercial CAD/PAD business lines.											
Note: Lines b. through d. should equal 100%.											
Source of R&D Reporting:											
R&D Reporting Schedule:											
Defense and Commercial Expenditures		2007		2008		2009		2010		2011	
		Defense	Commercial	Defense	Commercial	Defense	Commercial	Defense	Commercial	Defense	Commercial
A.	a.	Total R&D Expenditures									
	b.	Basic Research <i>[as a percent of a.]</i>									
	c.	Applied Research <i>[as a percent of a.]</i>									
	d.	Product/Process Development <i>[as a percent of a.]</i>									
	e.	% of Total R&D Expenditures relating to CAD/PAD business lines									
B.	Who was the primary driver of your R&D, prime contractors or U.S. Government customers?										
C.	Record the degree of compatibility of your Defense CAD/PAD-related research & development with Non-Defense customers and applications.										
Comments:											
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act											

Section 15.b		RESEARCH AND DEVELOPMENT (cont.)					
Record your company's total research and development (R&D) dollar expenditures by funding sources, as a percent of total R&D dollars sourced.							
Note: If your company's annual Total R&D Expenditures and Total R&D Funding Sources do not match, explain the discrepancy in the space provided.							
Note: Calendar year data is preferred.							
Source of R&D Reporting:							
R&D Reporting Schedule:							
A.	CAD/PAD R&D Funding Sources		2007	2008	2009	2010	2011
	a.	Total R&D Funding Sources					
	b.	Internal/Self-Funded/IRAD <i>[as a percent of a.]</i>					
	c.	Total Federal Government <i>[as a percent of a.]</i>					
	d.	Total State and Local Government <i>[as a percent of a.]</i>					
	e.	Universities - Public and Private <i>[as a percent of a.]</i>					
	f.	U.S. industry, venture capital, non-profit <i>[as a percent of a.]</i>					
	g.	Non-U.S. investors <i>[as a percent of a.]</i>					
	h.	Other (specify)					
Comments:							
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act							

Section 16		CUSTOMER CAPABILITIES		
A.	Based on your experience, what trends have you observed about the following technical capabilities within U.S. Government customers (including Department of Defense, Indian Head, Hill Air Force Base, and other USG customers)?			
	a.	Preparation of technical specifications		
	b.	Technical knowledge of your product		
	c.	Technical discussion of ordnance application in their system		
	d.	Technical ability to evaluate proposed design and compare		
B.	Based on your experience, what trends have you observed about the following technical capabilities within prime contractor customers?			
	a.	Preparation of technical specifications		
	b.	Technical knowledge of your product		
	c.	Technical discussion of ordnance application in their system		
	d.	Technical ability to evaluate proposed design and compare		
C.	Does your company find working with prime contractors or U.S. Government customers more efficient? Explain below.			
Comments:				
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act				

Section 17.a		U.S. GOVERNMENT POLICIES	
With respect to your CAD/PAD operations, what reasonable adjustments would you recommend be made to the following U.S. Government policies, laws, and regulations that would moderate any competitive disadvantages that U.S. firms might face.			
	Policy/Law/Regulation	Adjustment	
A.	a. Build to Print vs Performance Specifications		
	b. Competitive Bidding		
	c. Environmental and Safety Regulations		
	d. Export Controls		
	e. Government Competition		
	f. Lot Acceptance Testing		
	g. Procurement		
	h. Research and Development		
	i. Shipping Classifications		
	j. Small Business Asides		
	k. Small Business Innovative Research Program		
	l. Other (specify)		
Identify the main issues and challenges affecting the long-term viability of your facility/plant's product line(s) or service(s). Select a response for each issue/challenge.			
B.	Buy America Waivers		Labor Costs
	Difficulty Obtaining Key Inputs (Materials, Services, etc.)		Proximity to Customer
	Domestic Competition		Proximity to Supplier
	Environmental Regulations/Remediation		Qualifications/Certifications
	Export Controls		R&D Costs
	Foreign Competition		Skills Retention
	Foreign Subsidies/Import Restrictions		Taxes
	Government Budget Volatility		Variability of Demand
	Government Regulatory Burden		Other (specify)
	Healthcare		Other (specify)
	Comments:		
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act			

Section 17.b		U.S. GOVERNMENT POLICIES (cont.)	
A.	Has your company experienced lost sales due to export controls between the years 2007 to 2011? Explain below.	International Traffic in Arms Regulations (ITAR)	
		Commerce Control List (CCL)	
B.	Has your company chosen not to bid, cancelled an existing contract, or terminated a business line due to export controls?		
C.	What recommendations would you provide for streamlining/improving the export control processes? Explain below.		
D.	Has mandated second sourcing been beneficial or non-beneficial to your company? Explain below.		
E.	What recommendations would you provide for improving the second-sourcing process? Explain below.		
F.	Will the declining U.S. military presence in Iraq and Afghanistan affect your company's CAD/PAD business? If "Yes", explain below.		
G.	Are you concerned with proposed or potential defense or U.S. Government budget cuts? If "Yes", explain below.		
Comments:			
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act			

Section 17.c		U.S. GOVERNMENT POLICIES (cont.)	
A.	Has your company been impacted by delays in Foreign Military Sales (FMS) payment and shipping? If "Yes", explain below.		
B.	What percent of your firm's CAD/PAD-related exports are sold through direct FMS?		
C.	Select the dollar range value of the FMS products you are currently storing for transport at your facility.		
D.	On average, how long do you store FMS products before transport/shipping?		
E.	Is revenue recognized from FMS sales affected by delays in transporting the product to the customer? Explain below.		
F.	What recommendations would you provide for streamlining the FMS payment and shipping process?		
Comments:			
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act			

Section 18		EFFECTIVENESS OF PREVIOUS ASSESSMENTS	
The 1995, 2000, and 2006 CAD/PAD Assessments made several recommendations. Please review the questions below regarding the previous Department of Commerce study recommendations.			
1.	Have you experienced an improvement in your relations with the CAD/PAD Joint Program Office?		
2.	Has the CAD/PAD Joint Program Office provided Defense Budget forecasts for CAD/PAD devices?		
3.	Has the CAD/PAD Joint Program Office briefed you on technical developments and new requirements?		
4.	Has the CAD/PAD Join Program Office provided a forum for you to discuss and address grievances?		
5.	Have you experienced an improvement in your relations with the Labor Department's Office of Safety and Health Administration (OSHA)?		
6.	Have you experienced an improvement in your relations with the State Departments Export Control Branch?		
7.	Have you experienced an improvement in your relations with the Environmental Protection Agency (EPA)?		
8.	Has the CAD/PAD Joint Program Office contracted out a larger portion of product development and improvement to the CAD/PAD industry?		
9.	Has the CAD/PAD Joint Program Office implemented other policies that improved the CAD/PAD procurement environment?		
10.	Have you experienced improvements in the lot acceptance testing process?		
11.	Does industry receive at least 90 percent of overall CAD/PAD orders?		
12.	Are the Technical Exchange Workshops hosted by the CAD/PAD Joint Program Office useful to you, or do they need improvement?		
13.	Does second-sourcing of CAD/PAD business help or hurt your company?		
Comments:			
BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act			

Section 19		CERTIFICATION	
<p>The undersigned certifies that the information herein supplied in response to this questionnaire is complete and correct to the best of his/her knowledge. It is a criminal offense to willfully make a false statement or representation to any department or agency of the United States Government as to any matter within its jurisdiction (18 U.S.C.A. 1001 (1984 & SUPP. 1197))</p>			
Company Name			
Company's Internet Address			
Name of Authorizing Official			
Title of Authorizing Official			
E-mail Address			
Phone Number and Extension			
Date Certified			
<p>In the box below, provide any additional comments or any other information you wish to include regarding this survey assessment.</p>			
Would you like to receive a free copy of the final CAD/PAD report?			
How many hours did it take to complete this survey?			
<p>BUSINESS CONFIDENTIAL - Per Section 705(d) of the Defense Production Act</p>			