



The world leader in serving science

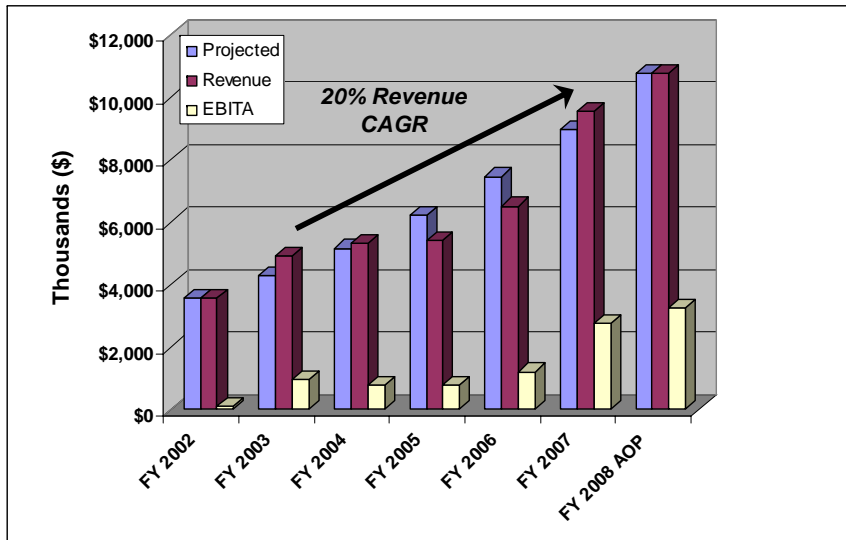
Thermo CIDTEC Research and Development Efforts

Tony Chapman
Thermo CIDTEC
Sales and Marketing Director
April, 2009

Agenda

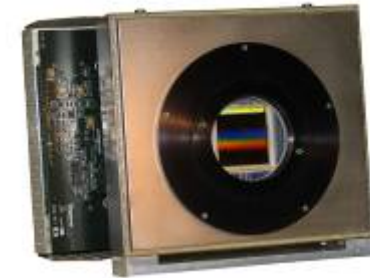
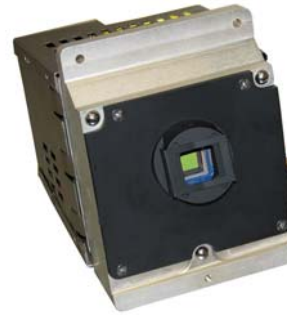
- Mission
- Organizational History
- Revenue by Application
- Key Products
- Product Research and Development Cycle
- Design and Development Flowchart
- ROI Investment Model
- Statement Of Work / Specifications

Thermo Fisher Scientific - CIDTEC'S Mission



- Grow revenue and profitability
 - Revenue growth rate target is greater than 20% per year
 - Pre-tax profit (EBITA) approaching or exceeding 30%
- By developing and manufacturing solid-state imaging products for applications such as:
 - Scientific imaging & instrumentation
 - Machine vision
 - Medical imaging
 - Radiation hardened video applications

SpectraCAM™86



SpectraCAM™ XDR

- Focusing on the sustainable competitive advantages, which are:
 - Extreme dynamic range (10^7 to 10^9) scientific cameras
 - Extreme radiation hardness (beyond 5 MRad total dose) in both monochrome and color

**Oncology customer
Multi-Leaf
Collimator
Controlled by the
CID Camera**



Radiation Oncology Treatment

**CID8825DX5
Camera for
Medical
Systems**



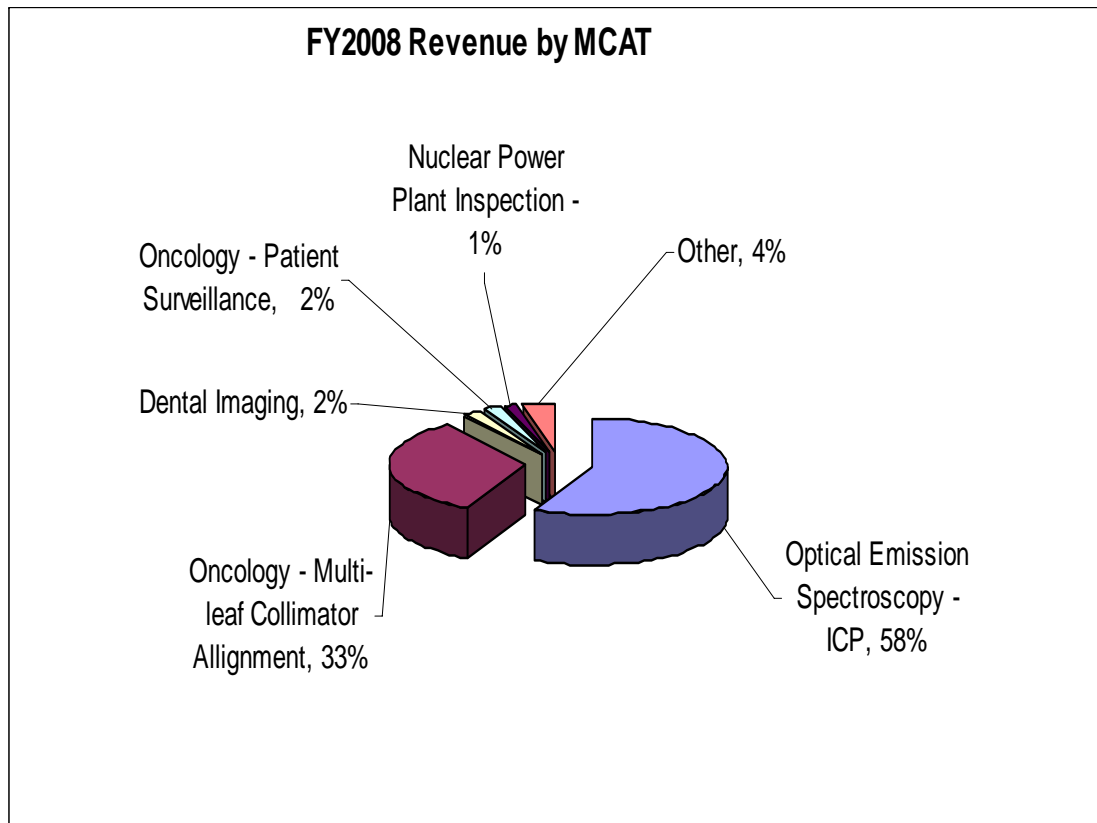
Organizational History



- CIDTEC founded in 1987
 - *Management buy-out of a General Electric (GE) imaging business*
 - *Licensed to use GE's Charge Injection Device (CID) patents*
- CID architecture protected from infringement by:
 - *Exclusive licensing of the GE patents*
 - *Other internally developed patents*
 - *Internally developed technology*
 - *Internally developed processes*

From:	To:	Description
1987	1994	Privately owned company.
1994	1997	Wholly owned by Thermo Instrument Systems, Inc.
1997	2001	Joined 6 other Thermo Instrument Systems subsidiaries to form Thermo Vision, Inc.
2001	2003	Thermo Vision spun in to become Thermo Electron's Photonics Division.
2003	June 2004	Photonics Division merged with Spectra-Physics Lasers forming Spectra-Physics Lasers & Photonics (Thermo Electron's Optical Technologies Sector)
June 2004	---	Thermo Electron sells Spectra Physics Lasers & Photonics, but retains CIDTEC. The product line's technology is considered to be a strategic asset.
June 2004	Nov. 2006	CIDTEC organized under Thermo Electron's Scientific Instruments Division (SID).
Nov. 2006	---	Thermo Electron purchases Fisher Scientific to form Thermo Fisher Scientific.
Nov. 2006	Present	CIDTEC organized under Thermo Fisher Scientific's Scientific Instrument Division (SID).

2008 Revenue by Application

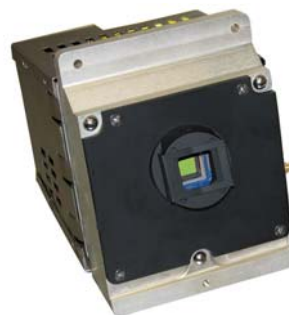


- Highly focused on 2 applications
 - ICP optical emission spectroscopy (OEM customers)
 - Radiation oncology (OEM customers)
- Working to expand to:
 - Portable spark OES (future OEM's)
 - Nuclear power plant inspection and surveillance (End Users and Systems Integrators)

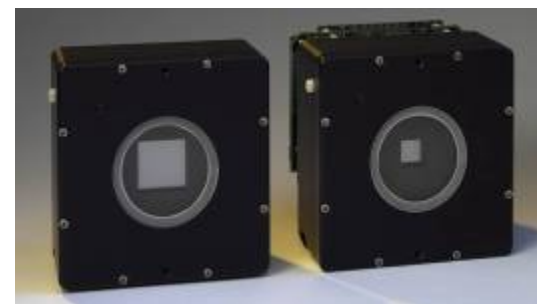
Key Products

- SpectraCAM Platform – ICP-OES
 - SpectraCAM86 camera (540 by 540 imager)
 - SpectraCAM84 (1024 by 1024 imager)
 - Common 3 PC Board stack (ASP, TSP, CPU)
- SpectraCAM XDR – Scientific Imaging
 - CID820 (2048 by 2048 imager)
 - ~10X less noise
 - 40X faster pixel rate
- CID8722TE – Radiation oncology multi-leaf collimator control
- CID8825D (color) and CID8725D (monochrome) – radiation hardened cameras
- X-Ray Imaging Products
 - GdOx phosphor coatings
 - CID4150DX3 imager

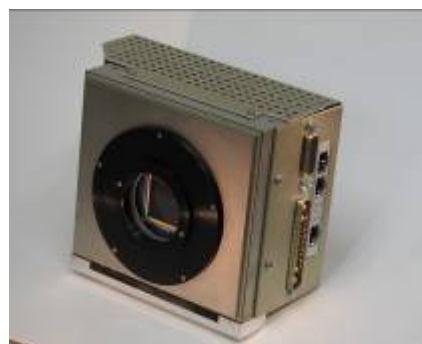
SpectraCAM™86



SpectraCAM™84



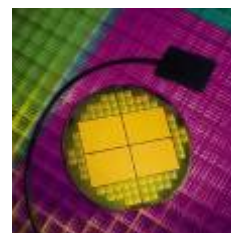
SpectraCAM™ XDR



*CID8825DX5
Camera for Medical
Systems*

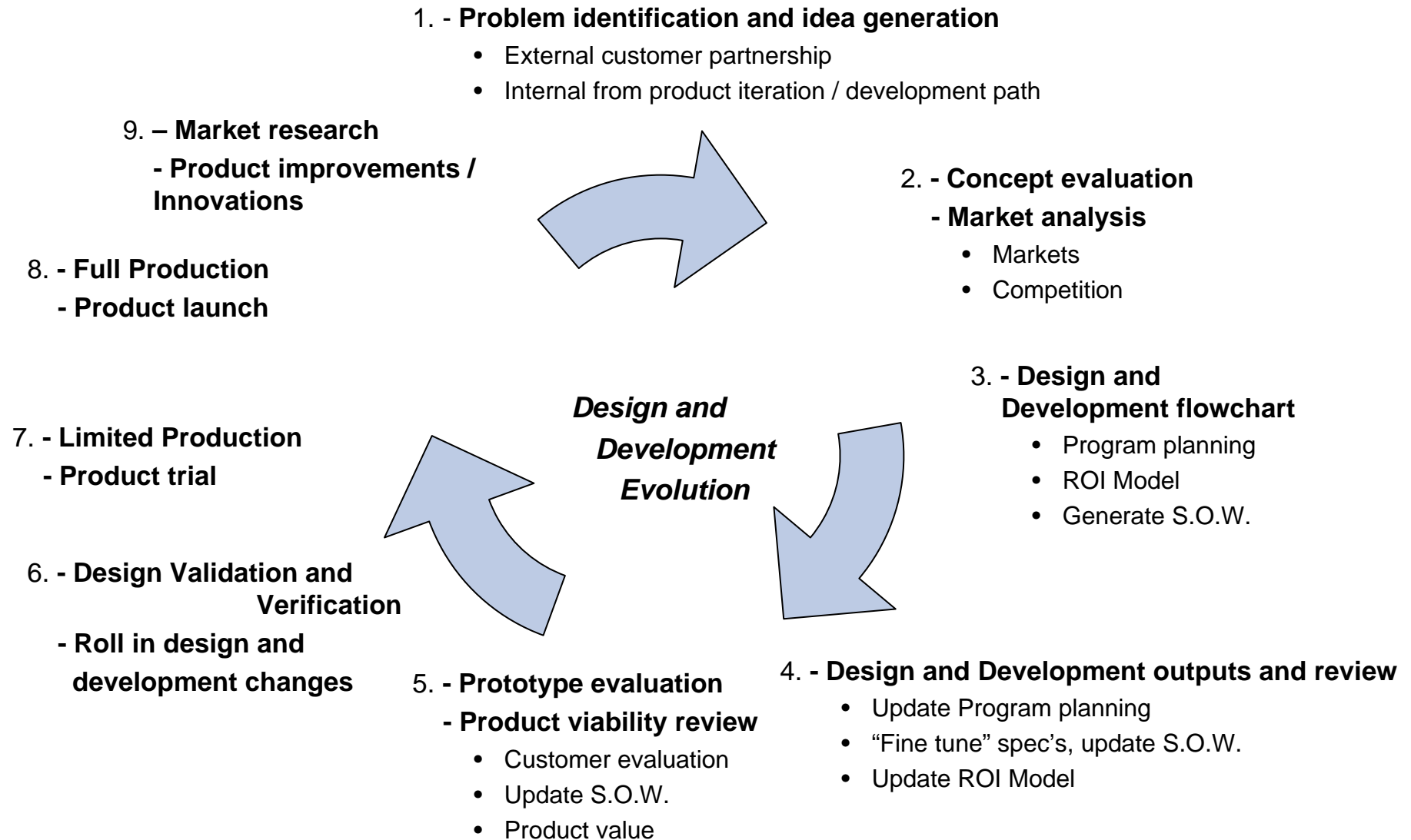


*Oncology customer
Multi-Leaf Collimator
Controlled by the CID
Camera*

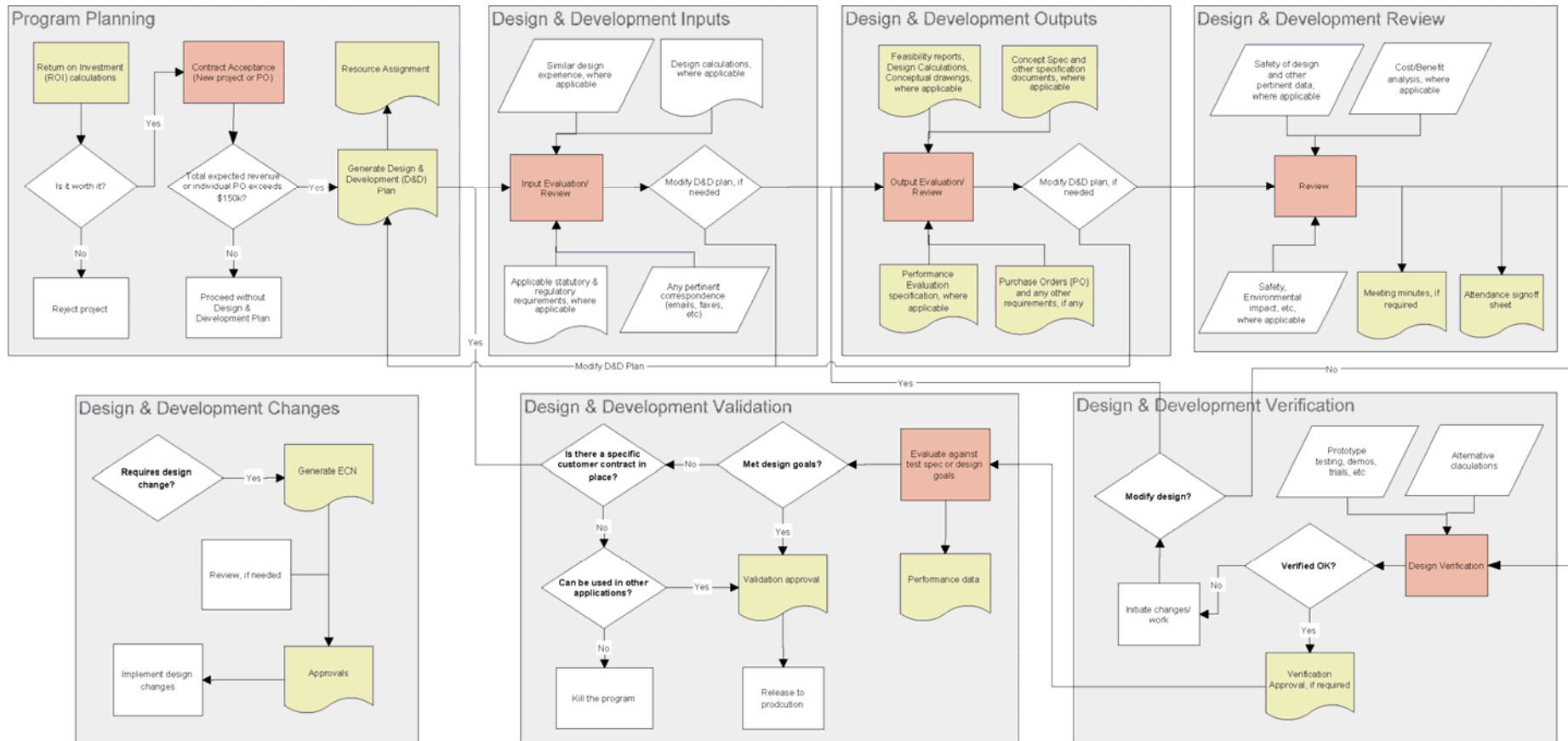


*X-Ray Imaging
Products*

Evaluating Product Research and Development



Design and Development Flowchart



ROI Investment Model



CIDTEC Cameras & Imagers

Input	FY 2009	Project	Comments
Return on Investment Model Input SAMPLE			
Project		Custom CID	
Date Modified		March 31, 2009	
Starting Quarter		4	Calculations assume that the initial investment occurs immediately before this quarter.
Starting Year		2009	
Depreciation Schedule (Years)		5	Model assumes depreciation begins 2 quarters after the investment.
Rates (\$ per Hour)			
Engineering Burden Rate	\$ -	\$ -	Confirm actual figures
Marketing Burden Rate	\$ -	\$ -	Confirm actual figures
Manufacturing Burden Rate	\$ -	\$ -	Confirm actual figures. Assume an increase due to headcount increases.
Material Overhead (% of Direct Materials)	0.00%	0.00%	Value represents typical Material Overhead.
Freight (COGS) (% of Revenue)	0.00%	0.00%	Freight Out costs to the customer.
Selling Expense Type			
		Variable Cost	Options: variable cost (% of revenue), fixed cost (\$), or stepped (\$ per incremental revenue)
Selling Expense (% of Revenue)	0.00%	2.00%	Confirm actual figures.
Selling Expense Variable (NA)		\$ -	
Selling Expense Variable (NA)		\$ -	
Marketing Expense Type			
		Variable Cost	Options: variable cost (% of revenue), fixed cost (\$), or stepped (\$ per incremental revenue)
Marketing Expense (% of Revenue)	0.00%	0.00%	Confirm actual figures
Marketing Expense Variable (NA)		\$ -	
Marketing Expense Variable (NA)		\$ -	
Administrative Expense Type			
		Fixed Cost	Options: variable cost (% of revenue), fixed cost (\$), or stepped (\$ per incremental revenue)
Administrative Expense Fixed (NA)	0.00%	0.00%	Confirm actual figures
Administrative Expense (Fixed Cost \$)		\$ 5,000	Targeted Administrative for this program will be addressed.
Administrative Expense Fixed (NA)		\$ -	
Taxes (% of EBITA)	0.00%	37.00%	Combined US Federal & State tax rate per Tax department. i
Working Capital			
Inventory Days (DOS)	0.0	0.0	Confirm actual figures
Accounts Receivable Days (DSO)	0.0	0.0	Confirm actual figures
Accounts Payable Days	0.0	0.0	Confirm actual figures
Terminal Value			
		Liq. WC	Zero value, liquidate working capital, liquidate working capital and cap. equipment, or perpetuity formula
Project Type		New Product	New product or technology, modification to existing product line, or cost savings/capital asset purchase.

Statement Of Work / Specifications

ThermoFisher
S C I E N T I F I C

Thermo CIDTEC
101 Commerce Blvd.
Liverpool, NY 13088

Proposal

For

Custom Designed Imager

September, 2009

High Resolution TE Cooled Radiation Hardened Camera

Statement of Work

Eventual Success - High radiation tolerant cooled camera

- CCD / CMOS cameras can not perform reliably in customers existing environment.
- High levels of X-Rays, neutrons, and scattered radiation along with high temperature present.
- Solution: Develop a cooled CID radiation hardened camera.
 - A solid-state detector that can reliably do the job.

