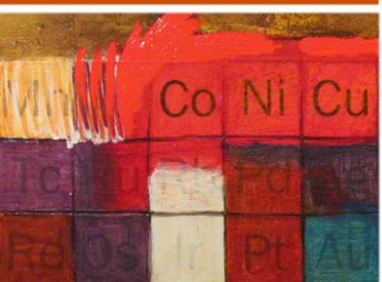
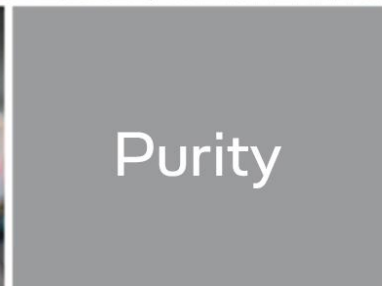
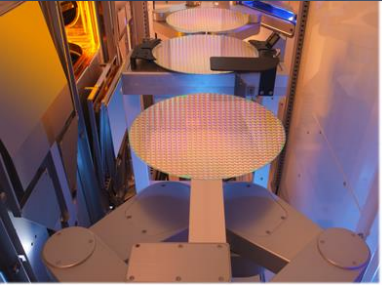


# Axcelis Technologies, Inc.



August 4, 2014



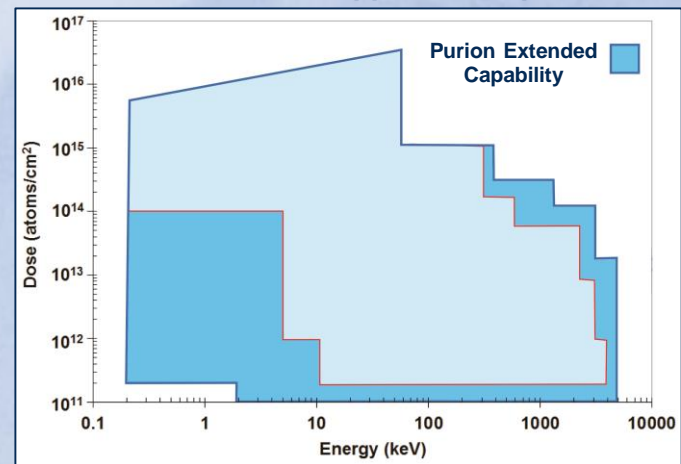
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# Purion Product Family– Beyond the Commonality

**Purion Ion Implanters Enable Advanced 3D Device Processing and Provide Customers More Flexible Manufacturing Strategies**

- Purion ion implanters enable advanced device technology processes
  - Low energy implant capability required for advanced planar and 3D devices
  - High energy range critical for NAND and CMOS Image Sensors
- Advanced single wafer scanned spot beam architectures provides significant process control and productivity advantages
  - Constant focal length scanning insures uniform dose, energy and angle control
  - High throughput for full application space
- Complete Purion solution provides customers the best overall technical and manufacturing implant solution

Purion Process Application Space



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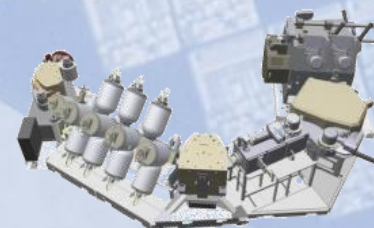


# Purion Product Family

## Innovative Beamlines Mated to Common Purion Endstation Provides Complete Ion Implant Product Solution

### ■ Purion XE – High Energy

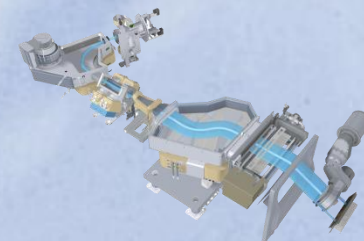
- RF linear accelerator (LINAC) based beamline delivers 2X productivity and broadest energy range
- Industry leading market position



RF Linear Accelerator Technology

### ■ Purion H – High Current

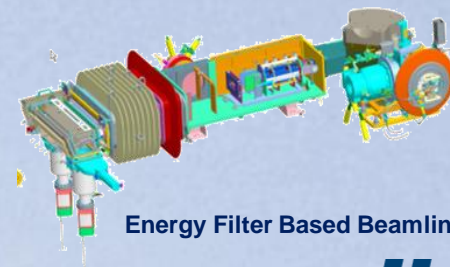
- Magnetically scanned spot beam delivers most precise and uniform dose, angle and dose rate control required by advanced 3D devices



Magnetically scanned  
Scanned Spot Beam  
Technology

### ■ Purion M – Medium Current

- Patented angular energy filter based beamline unmatched levels of purity and precision
- Lowest energy range for emerging device applications



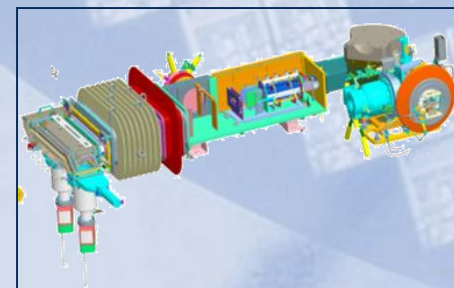
Energy Filter Based Beamline

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# Purion M – Medium Current Implant

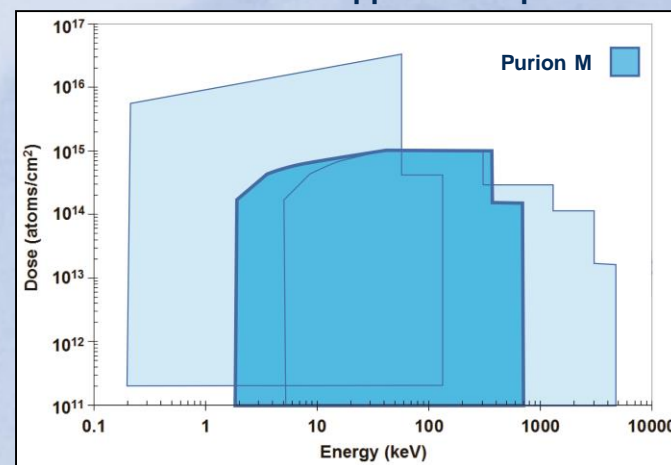
## Competitive New Product Offering for Untapped Medium Current Market

- Medium current represents ~30% of the implant TAM
- Patented angular energy filter based beamline
  - Unmatched level of purity and most accurate dopant placement enhances device yield
  - Lowest energy range for emerging device applications
  - Highest beam currents provide superior productivity
  - Lowest electricity consumption
- Critical placement of 3 units at both memory and foundry customers
  - First 3 evaluations completed and PO received
  - Expect follow on orders and additional customer placements in 2014



Energy Filter Based Beamline

Purion Process Application Space



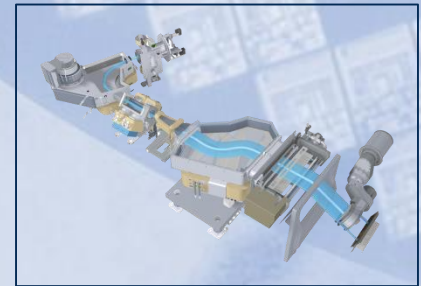
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# Purion H – High Current Implant

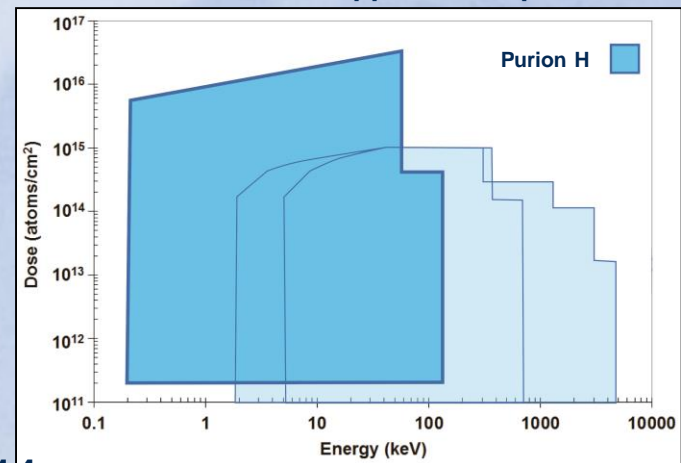
## Enhanced Scanned Spot Beam Technology

- High current represents ~55% of the implant TAM
- Magnetically scanned spot beam based beamline
  - Unique 5-Filter beamline including energy filter delivers unmatched beam purity for improved device yield
  - Most precise and uniform dose, angle and dose rate control for improved device performance
  - Highest beam currents combined with shortest tune times provide high productivity
  - Expanded application space creates new opportunities for low energy implants for advanced 3D devices and production flexibility
- Purion H announced in Q4/13
  - First Purion shipped in June 2014, customer now has “Full Power of Purion”
  - Multiple shipments to multiple customers in 2014



Enhanced Scanned  
Spot Beam Technology

Purion Process Application Space

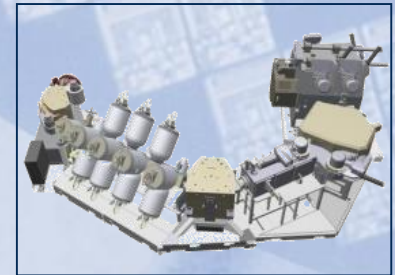


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# Purion XE – High Energy Implant

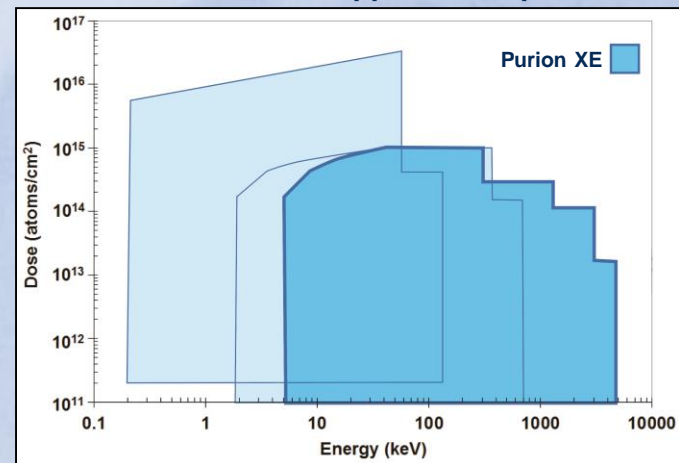
## Industry Leading LINAC Based High Energy Implant

- High energy represents ~15% of the implant TAM
  - Axcelis has 70% of non-Japanese market share
- RF linear accelerator (LINAC) based beamline
  - Highest beam transport efficiency results in 2X productivity advantage and broadest energy range
  - Delivers highest energy levels required for advanced NAND and image sensors
  - Industry leading purity
  - Unmatched reliability
- Strong installed base provides key entry point for the Purion family
  - Purion platform was based on the Optima XE



RF Linear Accelerator Technology

Purion Process Application Space



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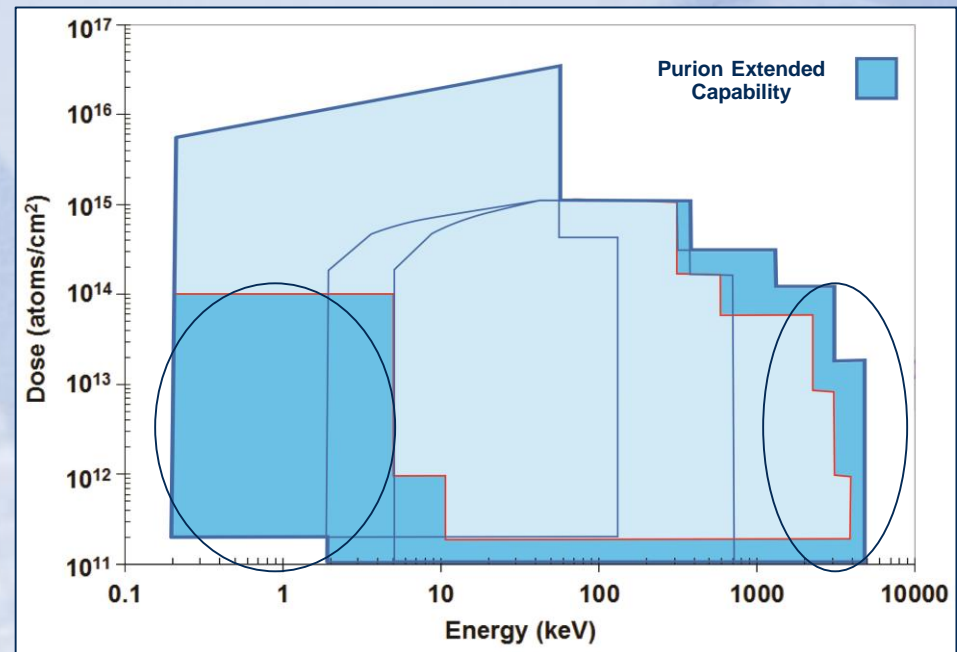


# The Power of Purion

**The Complete Purion Solution Provides Customers the Best Overall Technical and Manufacturing Implant Solution**

- High degree of product overlap provides customers opportunity for innovative manufacturing strategies for their implant bay
- Provides device engineers new capability at high and low energy critical for advanced devices
- The common Purion platform with advanced scanned spot beam architectures provide customers access to unparalleled levels of Purity, Precision and Productivity across the full application space

Purion Process Application Space



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# Axcelis Achieves 'RANKED 1<sup>ST</sup>' Awards in VLSIresearch Customer Satisfaction Survey

**Customers Voted Axcelis #1 THE BEST Supplier of Fab Equipment, #1 in Implant Equipment and #1 TEN BEST Focused Supplier**



THE BEST SUPPLIERS OF FAB EQUIPMENT		Rating
1	<b>axcelis</b>	9.11
2	ASML	8.93
3	Tokyo Electron	8.91
4	Plasma-Therm	8.70
5	Oerlikon	8.41
6	EV Group	8.22
7	Applied Materials	8.17
8	Hitachi High-Technologies	8.16
9	Lam Research	8.01
10	Hitachi Kokusai Electric	7.96

10 BEST SUPPLIERS OF FOCUSED CHIP MAKING EQUIPMENT		Rating
1	<b>axcelis</b>	9.11
2	ASM Pacific	9.02
3	LTX - Credence	8.76
4	Plasma-Therm	8.70
5	F&K Delvotec	8.64
6	Oerlikon	8.41
7	EV Group	8.22
8	HANMI Semiconductor	8.08
9	Multitest	7.89

RANKED 1 <sup>ST</sup> SUPPLIER OF IMPLANT EQUIPMENT		Rating
1	<b>axcelis</b>	9.09
2	Applied Materials	8.14

Source: VLSIresearch  
Doc: Axcelisv14.05.1

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