Connectors in Embedded Computing

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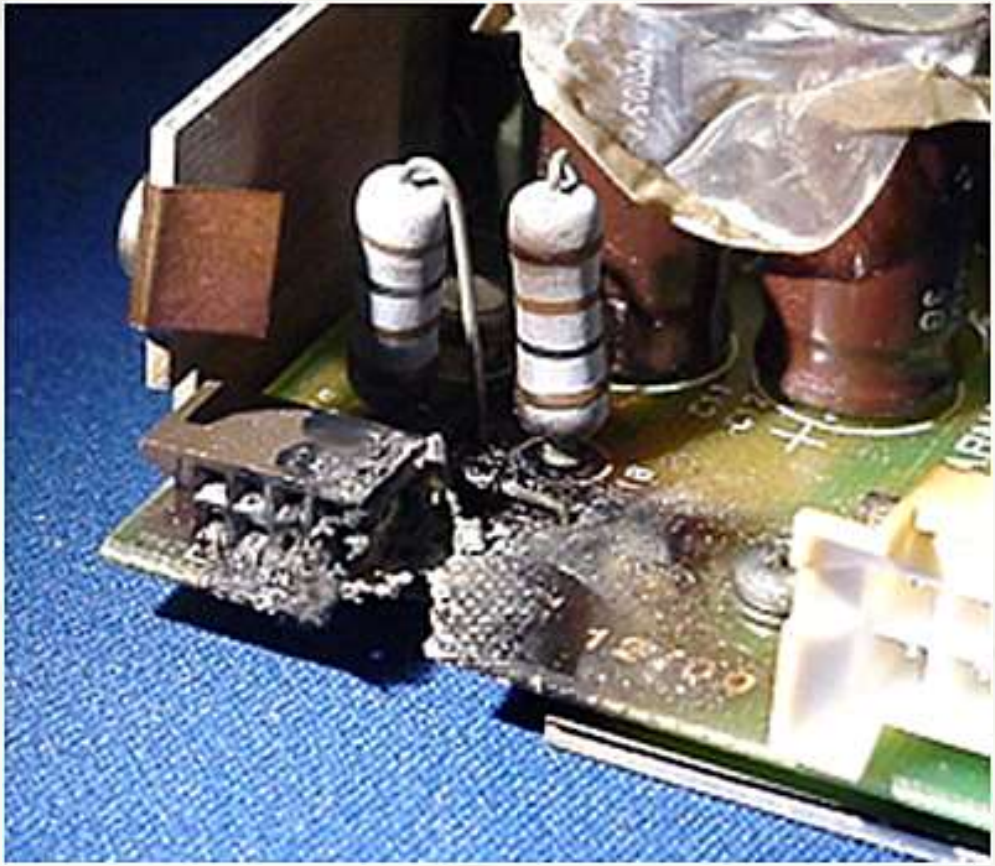
Connector influence on equipment reliability.

- Necessary evil, source of failure, adds cost
- Traditionally specified late in the new product design cycle
- Essential for manufacturability, operation and repair
- Types include signal, power, coaxial, fiber optic
- Internal / External I/O

Consequences of connector failure



2012 Global Connector Sales

Connector Industry Quarterly Sales

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Quarter	2011 Actual	2012 Results	YOY Change
1Q	$11,658	$11,391	-2.3%
2Q	$12,337	$11,878	-3.7%
3Q	$12,866	$11,951	-7.1%
4Q	$11,494	$11,900	3.5%
Total	$48,355	$47,120	-2.6%

$ Millions,
Forecast in red

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Regional Connector Performance

Region	Sequential	YOY	YTD
NA	9.0%	4.9%	2.5%
Europe	13.9%	-5.4%	-11.6%
Japan	4.1%	4.2%	0.8%
China	15.1%	5.5%	-3.8%
AP	11.2%	5.1%	0.3%
ROW	18.8%	-3.5%	-12.8%
Total	11.3%	1.8%	-2.6%

November 2012 billings

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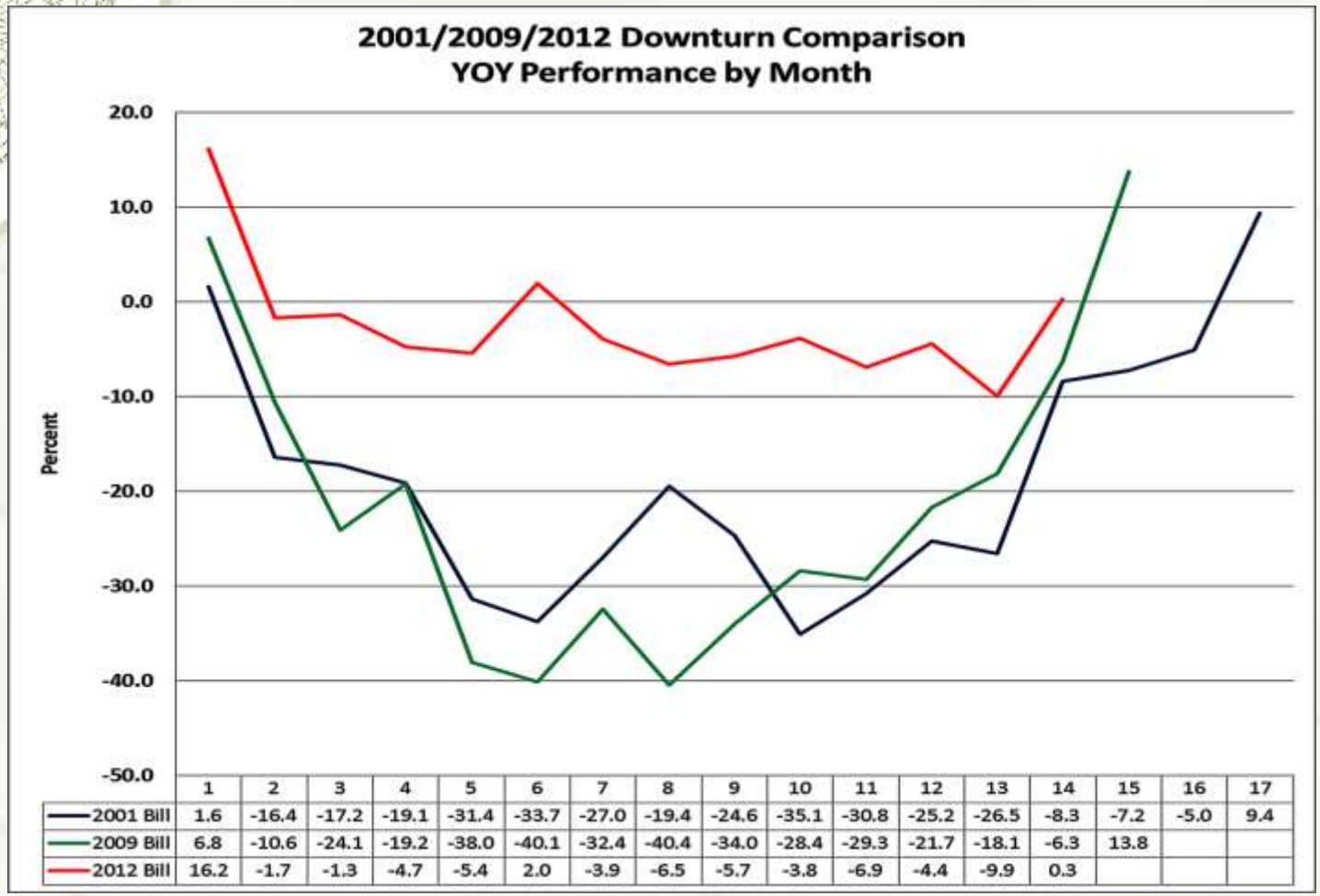
Downturn Comparison



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
2001 Bill	1.6	-16.4	-17.2	-19.1	-31.4	-33.7	-27.0	-19.4	-24.6	-35.1	-30.8	-25.2	-26.5	-8.3	-7.2	-5.0	9.4
2009 Bill	6.8	-10.6	-24.1	-19.2	-38.0	-40.1	-32.4	-40.4	-34.0	-28.4	-29.3	-21.7	-18.1	-6.3	13.8		
2012 Bill	16.2	-1.7	-1.3	-4.7	-5.4	2.0	-3.9	-6.5	-5.7	-3.8	-6.9	-4.4	-9.9	0.3			

2013 Connector Forecast

Connector Industry Quarterly Sales

Quarter	2011	2012	% Change	2013 Outlook	% change
1Q	$11,658	$11,391	-2.3%	$12,000	5.3%
2Q	$12,337	$11,878	-3.7%	$12,100	1.9%
3Q	$12,866	$11,951	-7.1%	$12,400	3.8%
4Q	$11,494	$11,900	3.5%	$12,600	5.9%
Total	**$48,355**	**$47,120**	**-2.6%**	**$49,100**	**4.2%**

$ Millions

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Embedded Connector Market

2011	$166
2012	$161.7 (-2.6%)
2013	$168.5 (+4.2%)

$ million

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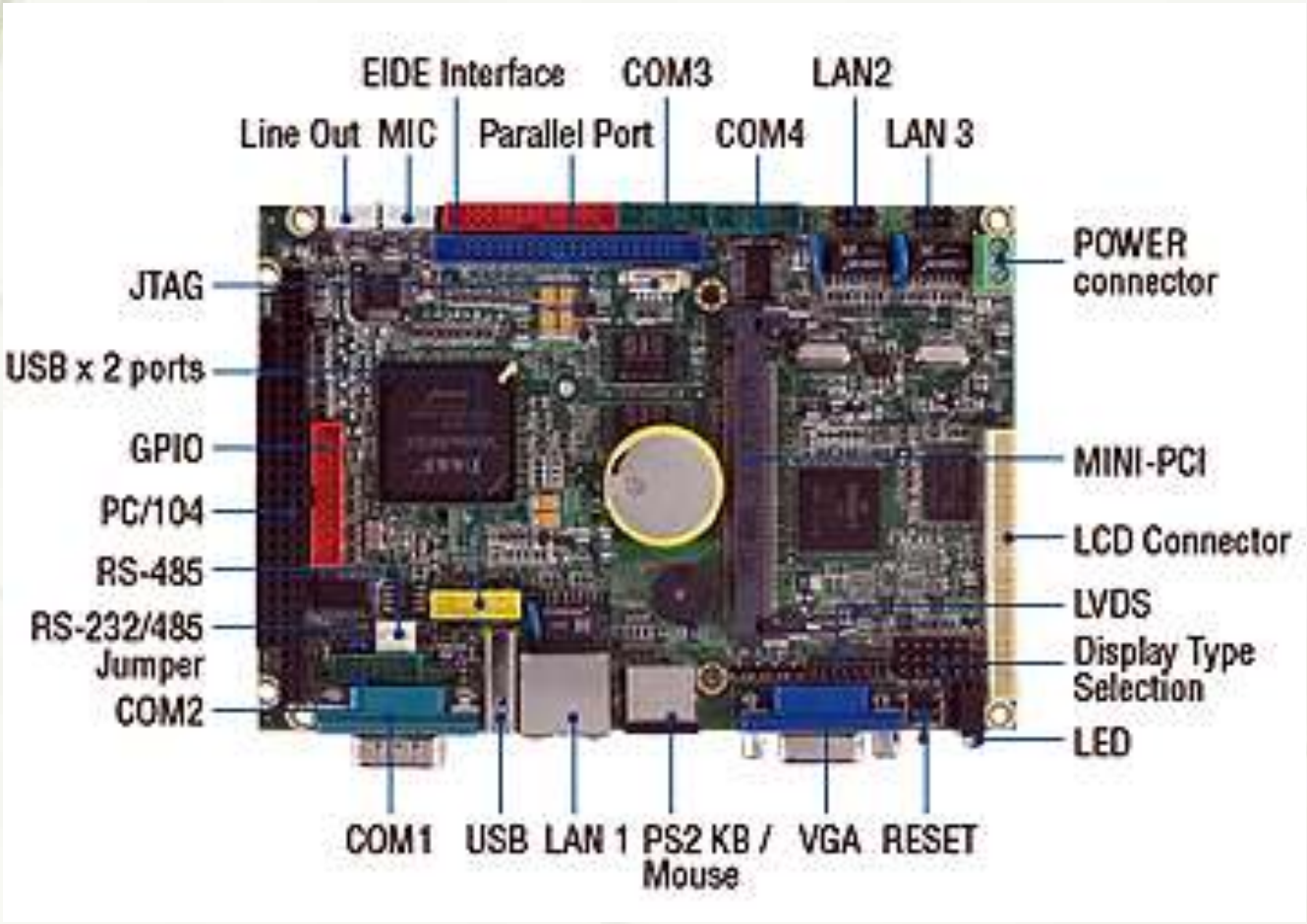
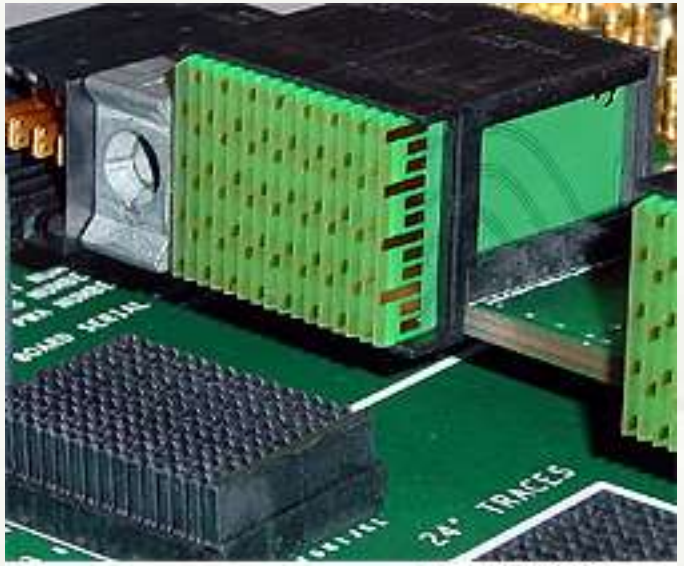
Embedded Computers

Embedded Computers



Embedded Computers



Tyco Electronics

Embedded Computers

Hybricon

FASTWEL Corp.

Embedded Computers

- Applications

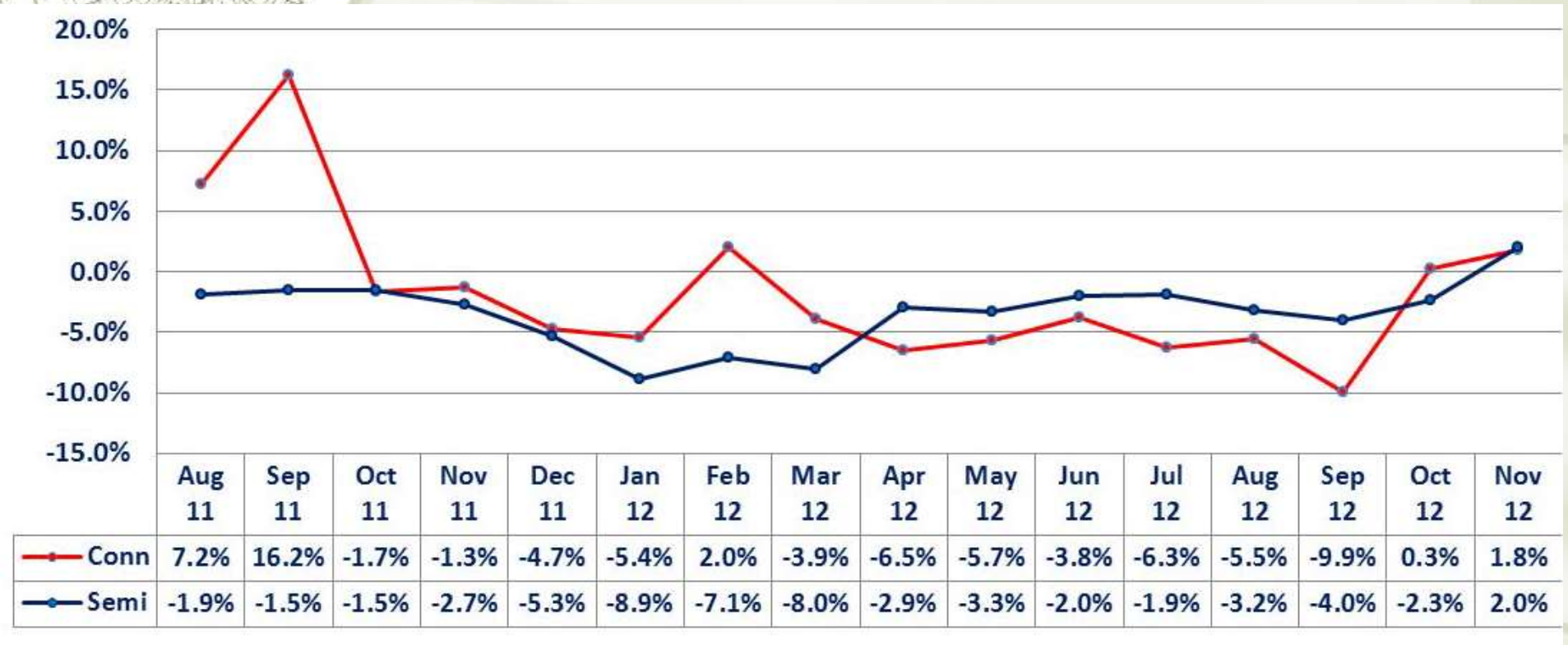
Embedded Computer Trends

1. SWaP: Size, Weight, Power
2. Increasing datarates
3. Environmental resistance
4. Cost sensitivity (COTS)
5. Standards driven e.g.. PC/104, OpenVPX
6. Increasing interest in fiber optics

Impact on Connectors

1. Higher pin counts / lower mating forces
2. Smaller contact centerlines
3. Increased power rating
4. Higher temperature ratings
5. Ruggedized /sealed connectors
6. Tighter impedance control
7. Optimized PCB launch
8. Exploration of new contact designs and plating

Encouraging Trend



	Aug 11	Sep 11	Oct 11	Nov 11	Dec 11	Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sep 12	Oct 12	Nov 12
Conn	7.2%	16.2%	-1.7%	-1.3%	-4.7%	-5.4%	2.0%	-3.9%	-6.5%	-5.7%	-3.8%	-6.3%	-5.5%	-9.9%	0.3%	1.8%
Semi	-1.9%	-1.5%	-1.5%	-2.7%	-5.3%	-8.9%	-7.1%	-8.0%	-2.9%	-3.3%	-2.0%	-1.9%	-3.2%	-4.0%	-2.3%	2.0%

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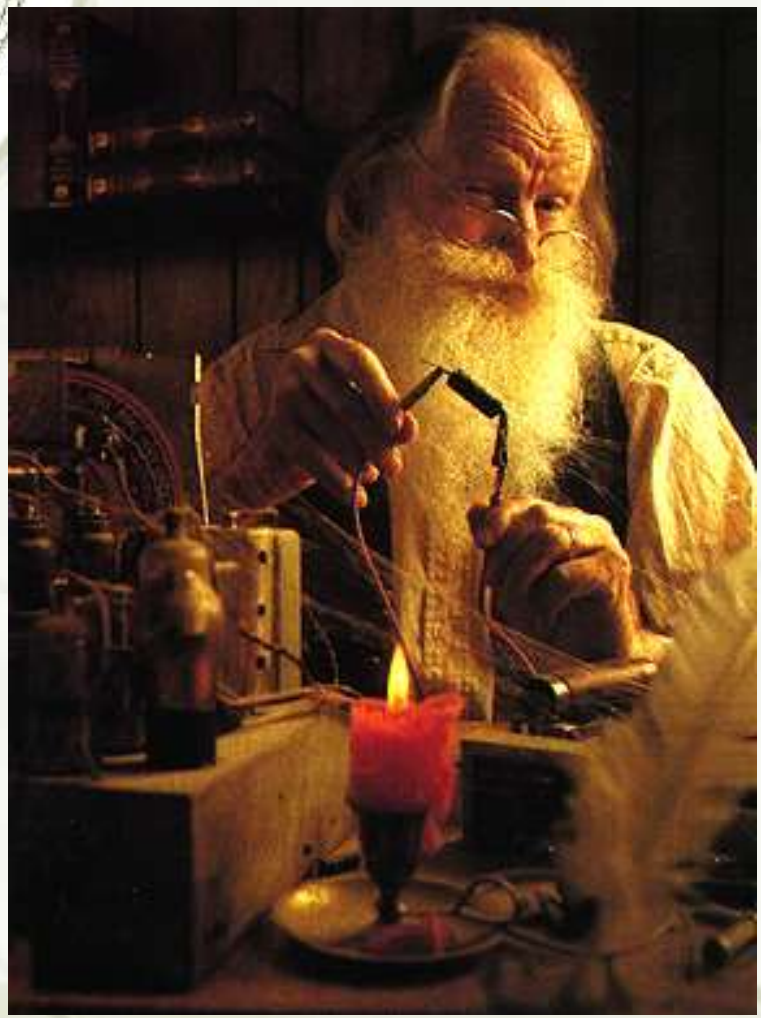
Next Generation Equipment



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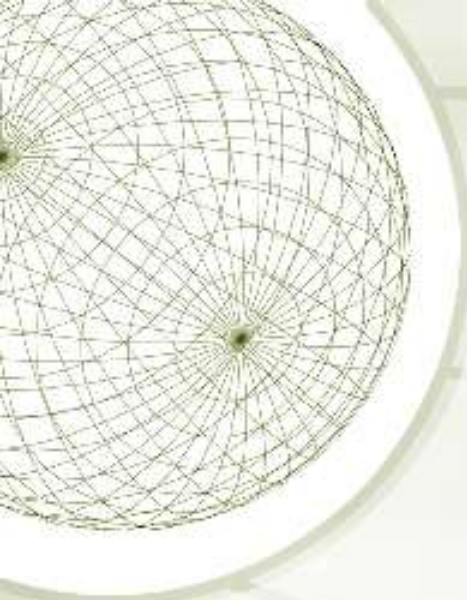

Thank You

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