

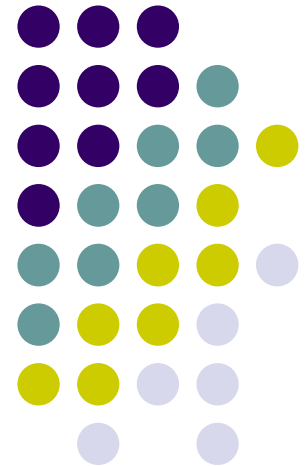
# “Other” Critical Applications for Rare Earth Technologies

DMTC

Strategic Materials Conference 2010  
Intercontinental Hotel, Cleveland, OH  
February 2, 2010

Keith A. Delaney  
Executive Director

Rare Earth Industry and Technology Association  
(REITA)





# “Other” RE Applications Overview

**Optical**

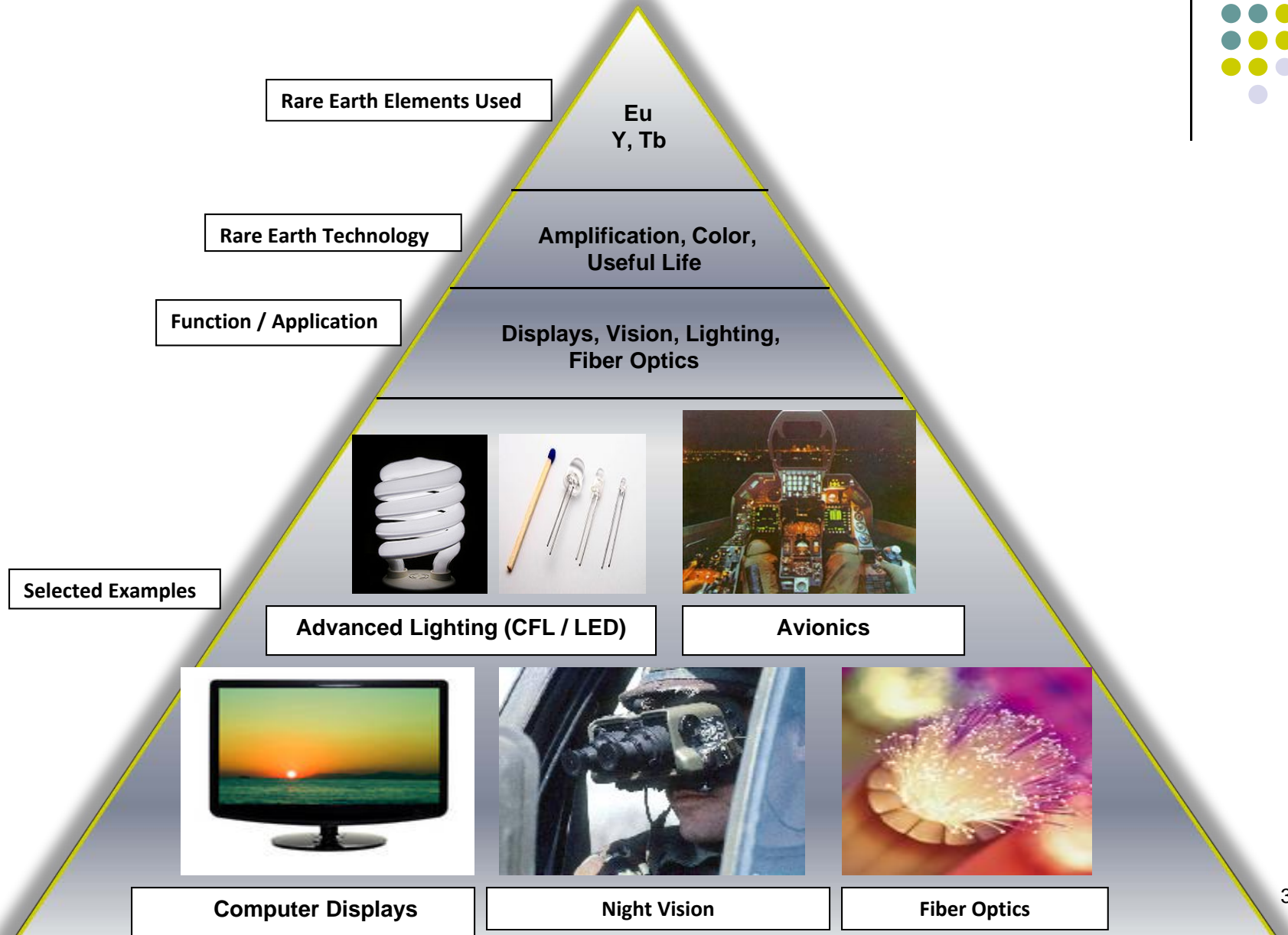
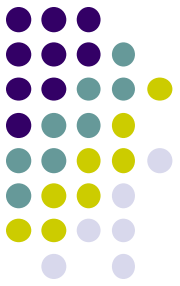
**Electronics**

**Metallurgical**

**Catalytic**

**Other**

# Selected Optical Applications for Rare Earths



# Laser Technologies

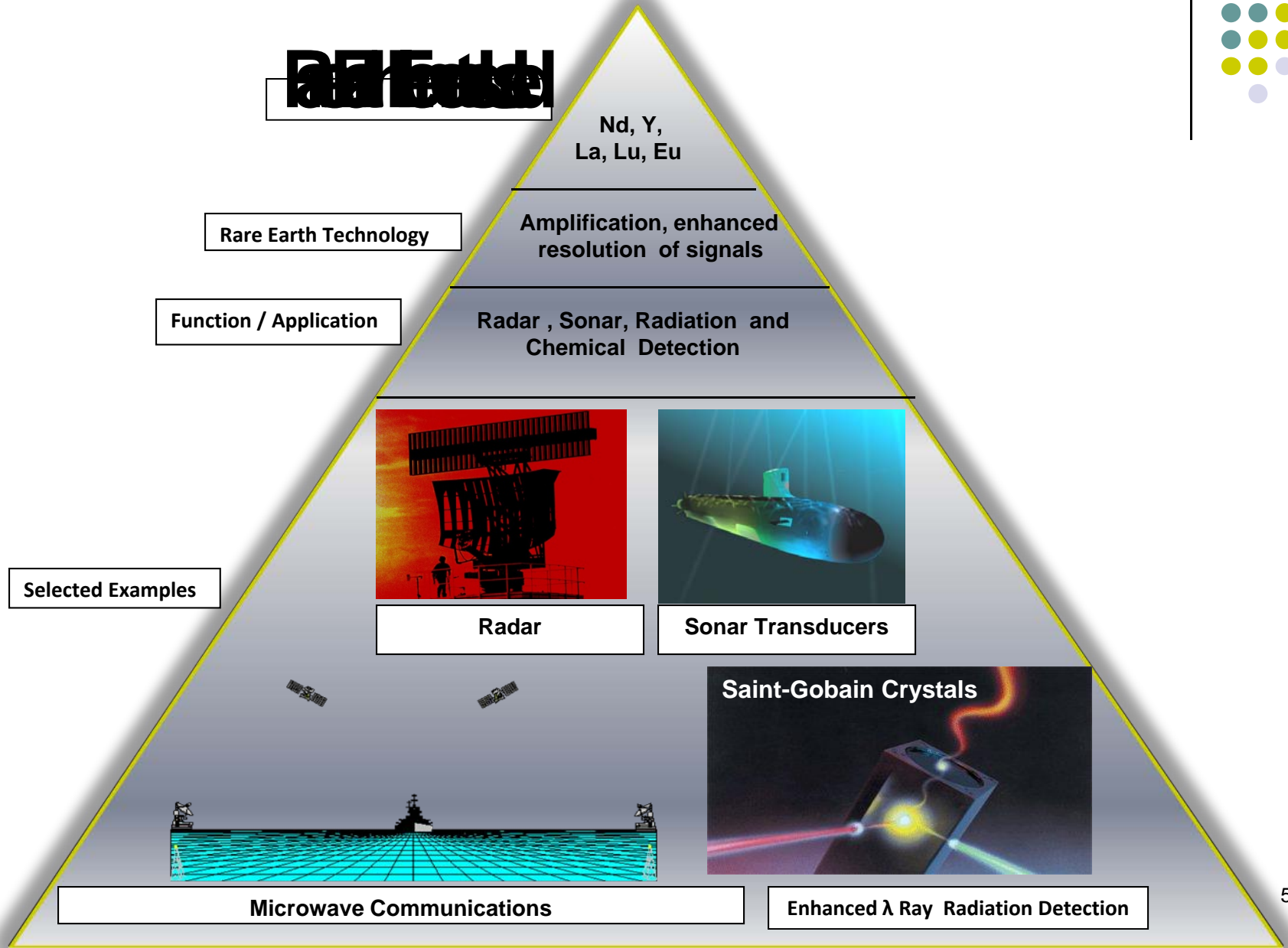
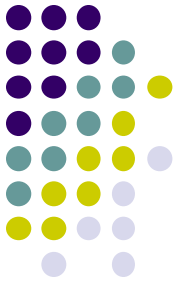


Laser Targeting and range Finding

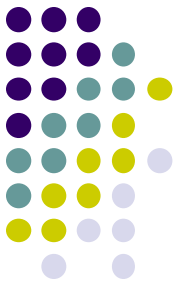


**SaberShot Photonic Disruptor  
(Laser Dazzler)**

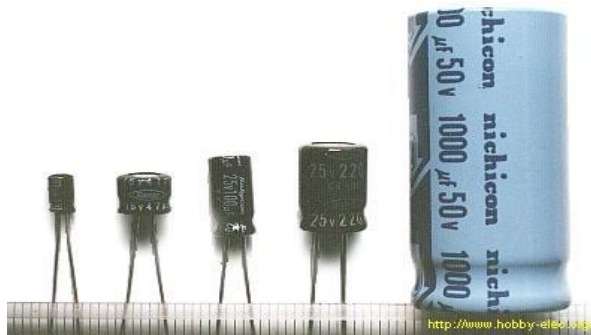
# Selected Electronic Applications for Rare Earths



# Selected Electronic Applications for Rare Earths

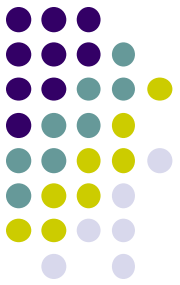


**ALQ 131 Jamming Pod**



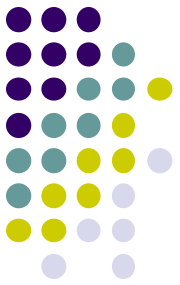
**Ceramic Capacitors**

# Chinese Production of RE for Metal Alloys (000 mt)



	2000	2008	2014 (forecast)
China	5.5	15.5	34.0
Japan & SE Asia	2.8	4.5	7.5
USA	1.7	1.3	1.8
Others	2.5	1.0	1.7
Total	12.5	22.3	45.0

# Metallurgical Applications for RE



Application	RE
Ni Metal Hydride Batteries	Mischmetal
Thermal Barrier Coatings for Jet Engines	Y stabilized Zr
Magnesium Castings Alloys	Various from Mischmetal
Superalloys (Haynes, Brightray, Incotherm, Udimet, etc.)	La, Y / Mischmetal
High Strength Steels	Various from Mischmetal



# Catalytic Applications

**FCC Catalyst**

**Auto Emissions**

**Ethyl Benzene Dehydrogenation (to Styrene)**



# Other RE Applications

**Ceramics Additives**

**Glass Polishing**

**Circuit Boards**