



# Conflict and Opportunity: Chemicals Management the Circular Economy & Precious Metals

5 December 2018

By Hugo Waeterschoot

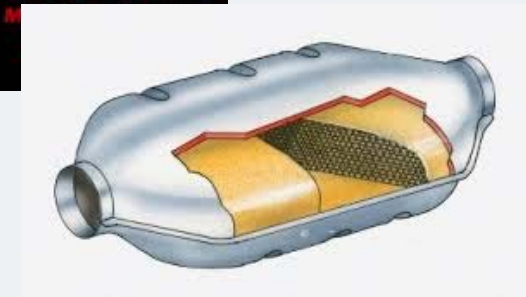
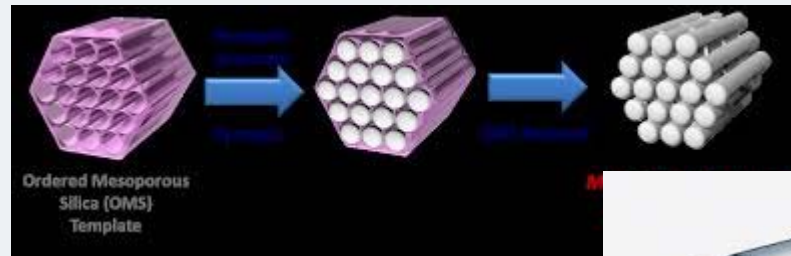


# Precious metals...not only precious because of their price...



But also because of:

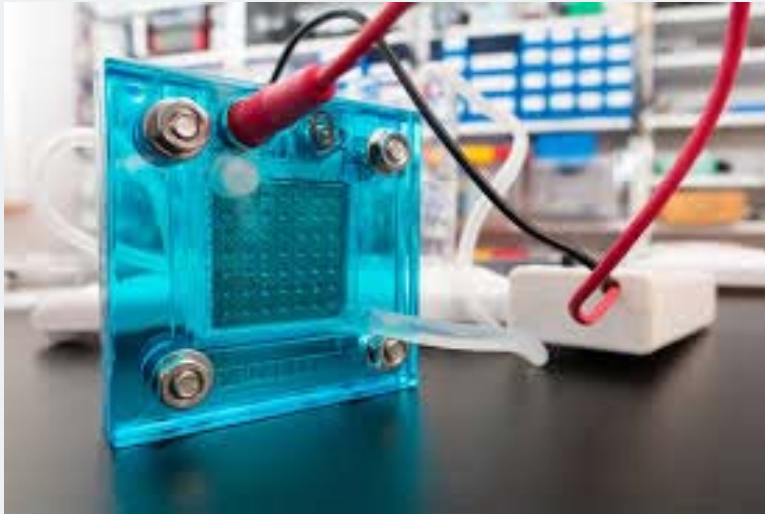
- Their chemical catalyst function:



- “Value” promotes recycling

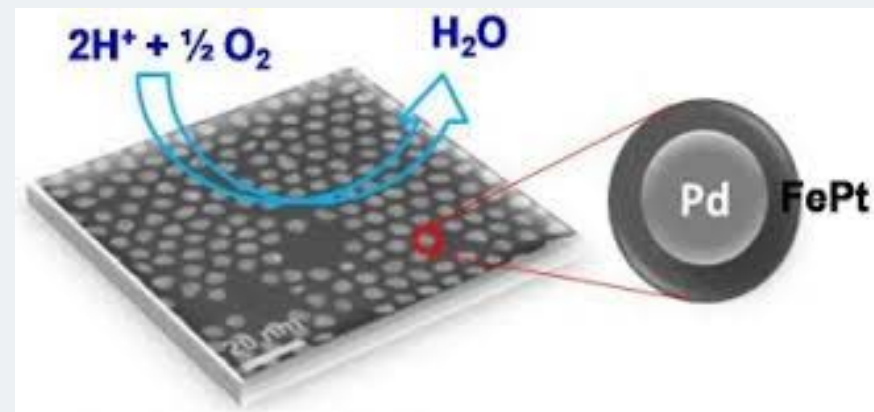


# Precious metals...not only “precious” because of their price...



But also because of:

- Their key role in **future breakthrough technologies** for a more sustainable economy: key role for *fuel cells*



# Megatrends and what they may mean for Precious Metals (PMs)

Trends dicit PWC...



Demographic changes



Moving of the economic power



More people in the cities



Climate & prim. Mat shortage



Technology changes

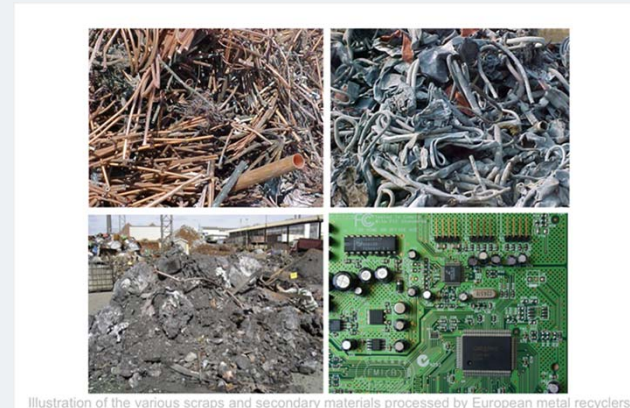
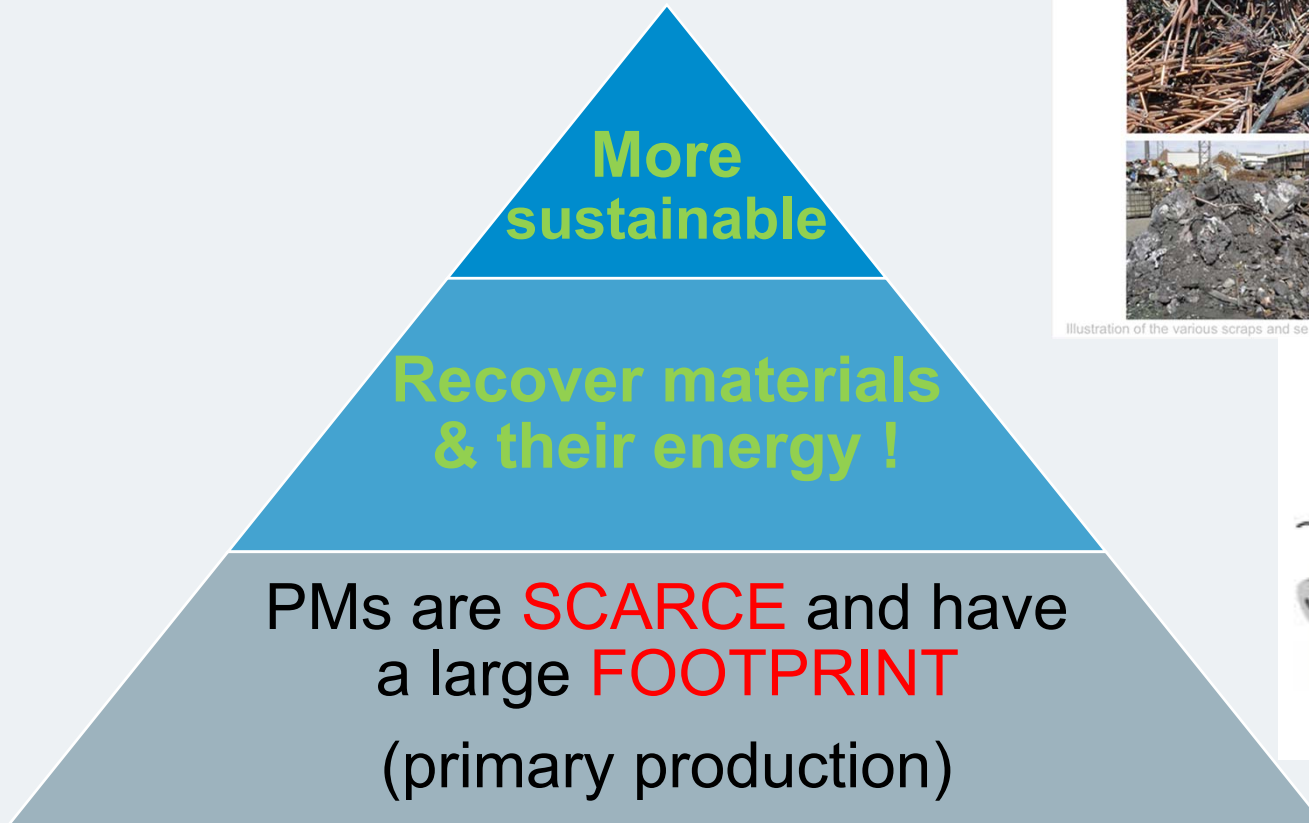


## Main expected trends in respect to PMs:

- Technological breakthroughs:
  - Fuel Cell
- Economic breakthroughs:
  - Do more with less
- Societal breakthroughs:
  - Safe products & Circular economy



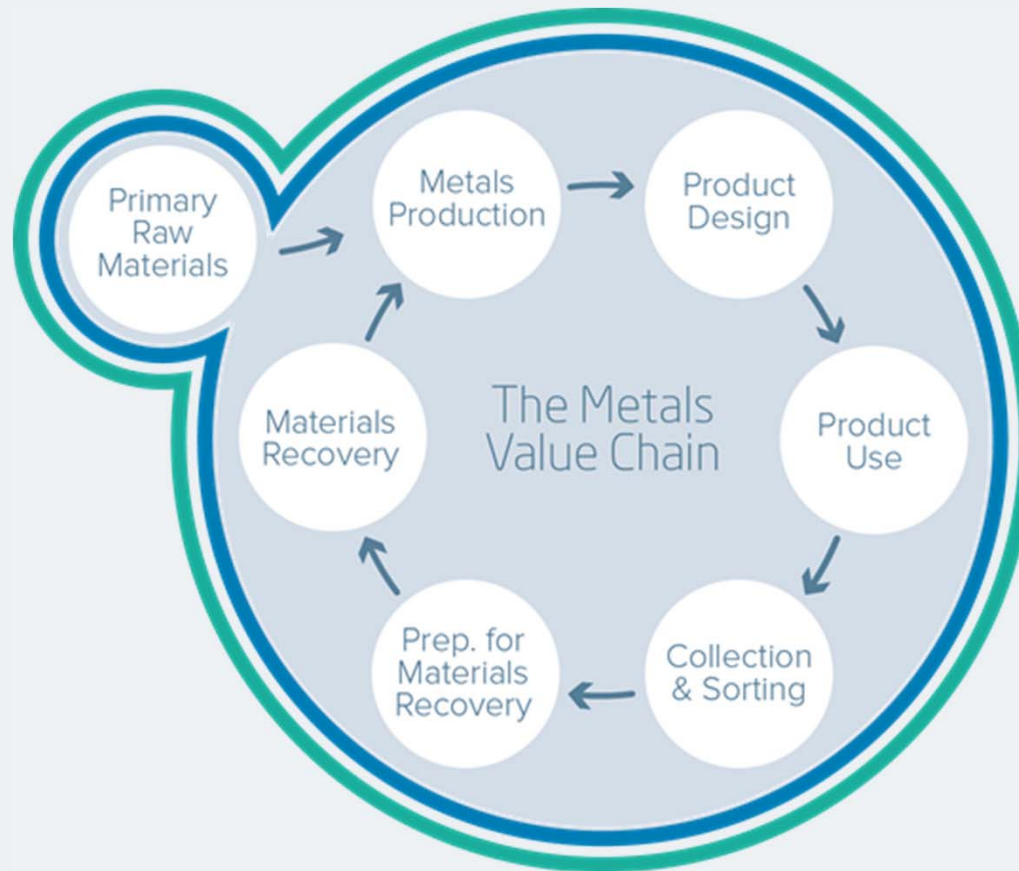
# Another way of looking to it... for Precious Metals



# Circular Economy (recycling) vs Chemicals Management (REACH)



Not always best friends.....



## CHEMICALS POLICY

*Focus on handling materials safely*

- Safe use
- Safe manufacturing
- Safe recycling
- Article legislation



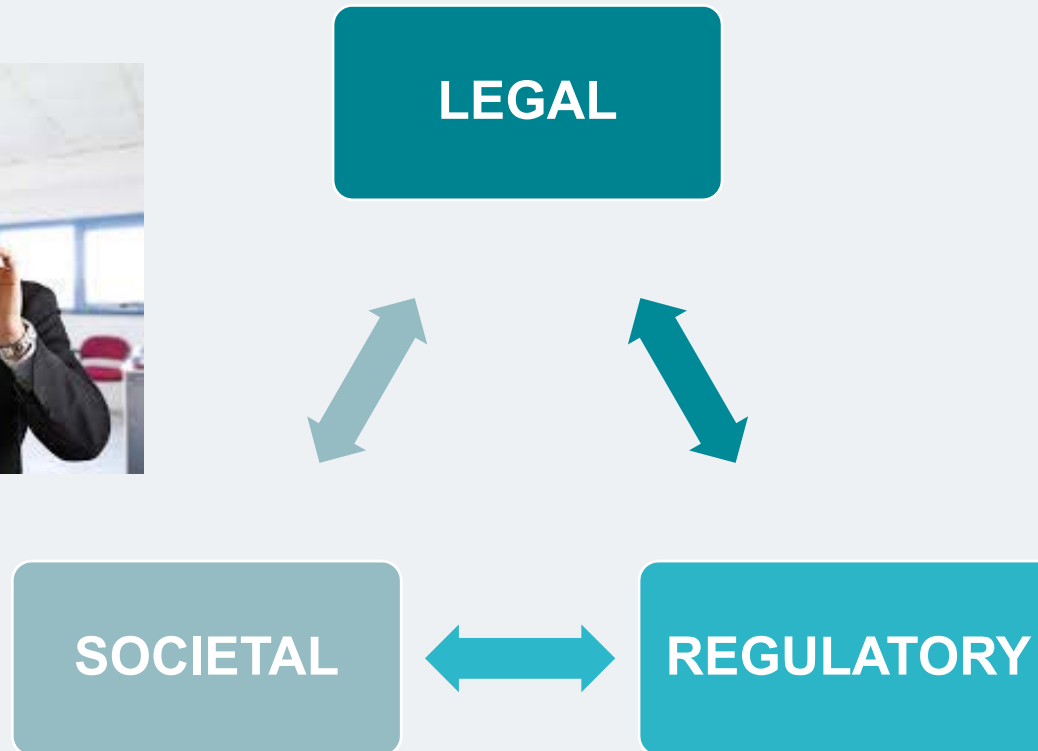
## CIRCULAR ECONOMY POLICY

*Focus on keeping materials in the loop*

- Industrial Symbiosis
- Ecodesign
- Waste management
- Secondary raw materials markets

# CONFLICT and OPPORTUNITY: CE ↔ REACH

What type of “challenges” form barriers for a Safe Product use in a Circular Economy?



# CONFLICT and OPPORTUNITY: CE ↔ REACH

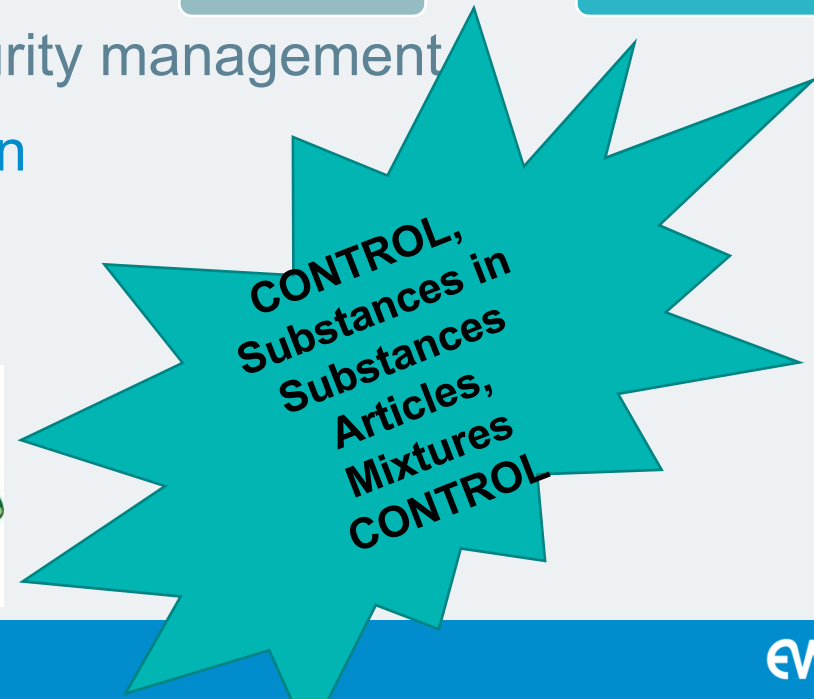
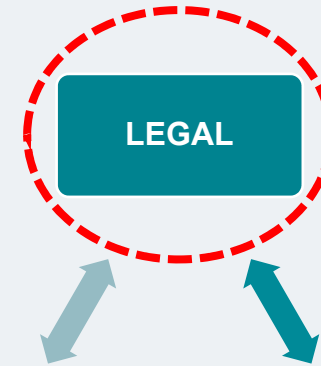
## LEGAL

- DON't make RECYCLING LEGALLY  
(Close to) IMPOSSIBLE

By:

- Implementing too strict impurity management

N.B.: PMs are only a small fraction  
of the recycled materials  
but the most valuable part

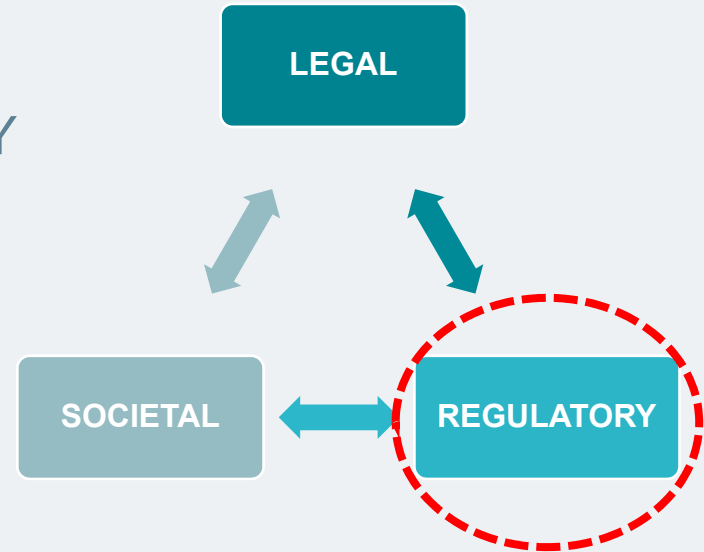




# CONFLICT and OPPORTUNITY: CE ↔ REACH

## REGULATORY

- Risk Management of Impurities is KEY
- SURE... :
  - But PMs are the small concentration
  - Others are the driver for regulatory action

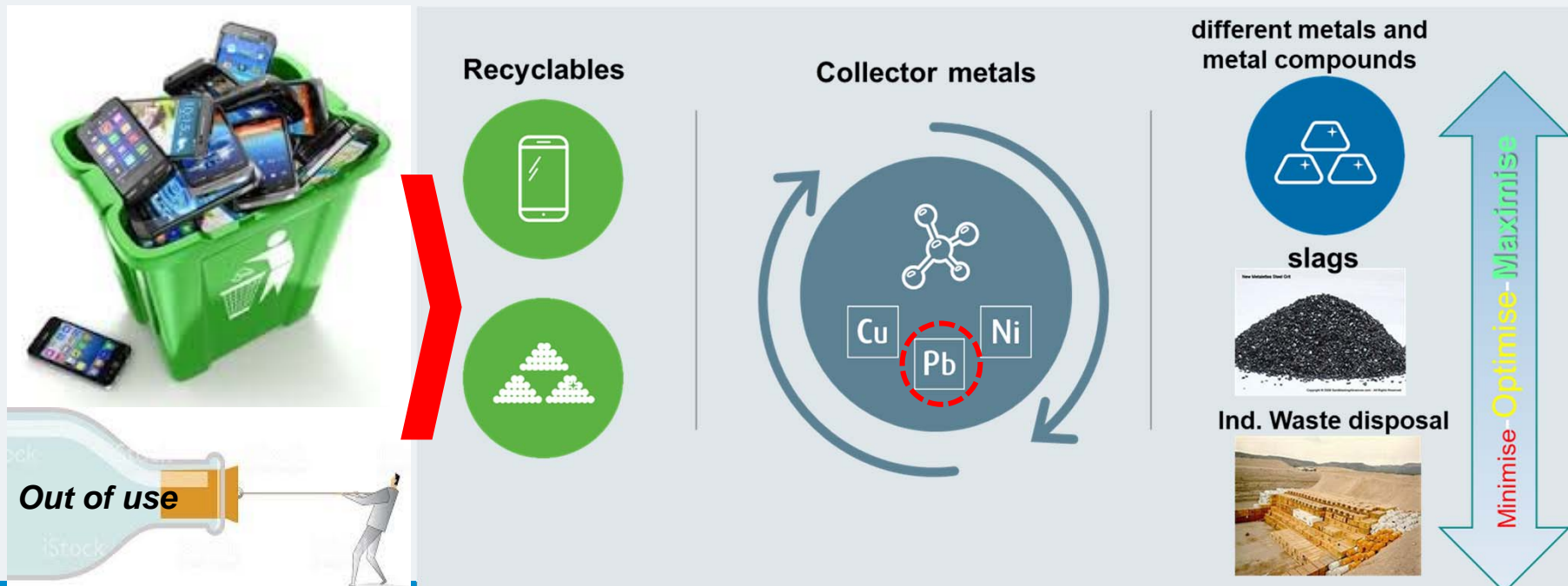
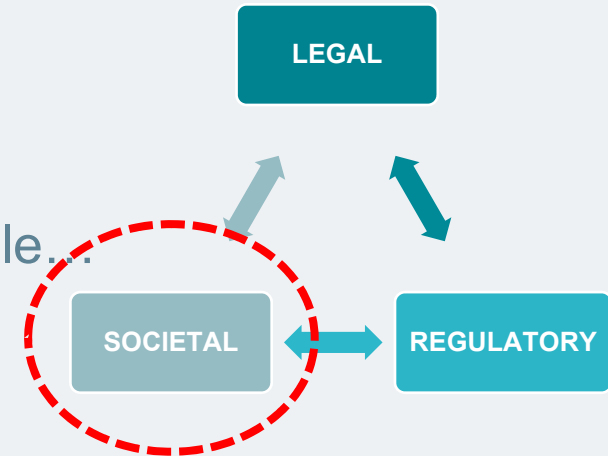


# CONFLICT and OPPORTUNITY: CE ↔ REACH

## SOCIETAL

Recycle as much as possible

- PERFECT if recycled materials are available...
- But Recycling needs Technology



# CONFLICT and OPPORTUNITY: CE ↔ REACH

## CONCLUSION



How can we reduce / eliminate the barriers to promote a Circular Economy for (Precious) Metals while ensuring safe manufacturing, use and recycling?

# THANK YOU

More information, contact:

[Verougstraete@eurometaux.be](mailto:Verougstraete@eurometaux.be)

[Waeterschoot@eurometaux.be](mailto:Waeterschoot@eurometaux.be)

 @Eurometaux

[www.eurometaux.eu](http://www.eurometaux.eu)

Avenue de Broqueville 12 | B-1150 Brussels | Tel: +32 (2) 775 63 11 | [eurometaux@eurometaux.be](mailto:eurometaux@eurometaux.be)

13 Al Aluminium	29 Cu Copper	28 Ni Nickel	82 Pb Lead	30 Zn Zinc	79 Au Gold	47 Ag Silver	78 Pt Platinum	51 Sb Antimony	4 Be Beryllium	14 Si Silicon	27 Co Cobalt	42 Mo Molybdenum	23 V Vanadium	50 Sn Tin	46 Pd Palladium	44 Ru Ruthenium	75 Re Rhenium	76 Os Osmium	77 Ir Iridium	74 W Tungsten	73 Ta Tantalum	32 Ge Germanium	34 Se Selenium	31 Ga Gallium	24 Cr Chromium	12 Mg Magnesium
-----------------------	--------------------	--------------------	------------------	------------------	------------------	--------------------	----------------------	----------------------	----------------------	---------------------	--------------------	------------------------	---------------------	-----------------	-----------------------	-----------------------	---------------------	--------------------	---------------------	---------------------	----------------------	-----------------------	----------------------	---------------------	----------------------	-----------------------