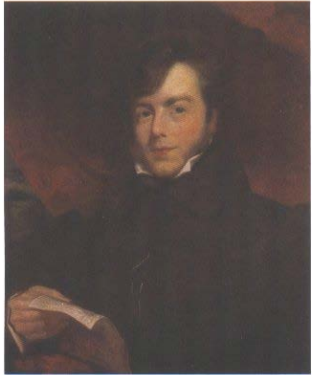


Johnson Matthey

September 20, 2012



Johnson Matthey



Percival Norton Johnson FRS

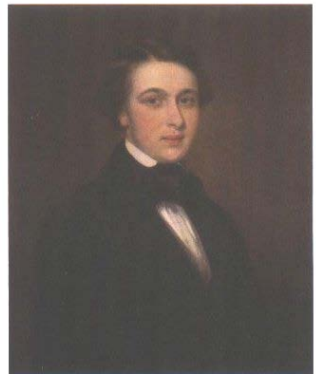
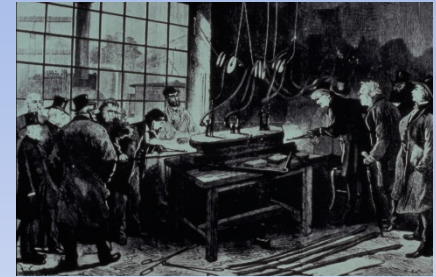
1817 - Percival Norton Johnson established as gold assayer in London's Hatton Garden

1851 - George Matthey joins, to form Johnson Matthey

1852 - Appointed Official Assayer to the Bank of England and Official Meters and Refiners a few years later

1927 - Established subsidiary in the United States

Today - Specialists in recycling and applying technology to precious metals and other advanced materials



George Matthey FRS

Operations in over 30 countries with 9,900 employees



Divisional Structure



Manufacturing Operations in 3 Major Continents





Chiral Technologies, Cambridge



West Deptford



Taloja



Emmerich

**Catalysts &
Chemicals
Sites**



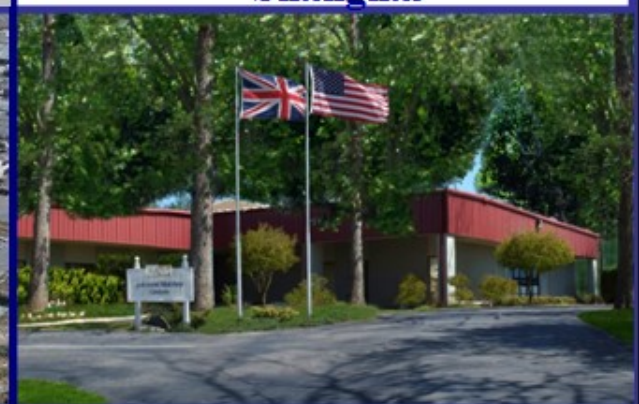
Shanghai



Oberhausen



Royston



Tennessee

West Deptford Site

- Commissioned in 1983
- 200,000 sq. ft. on 40 acre site, 280 employees
- Administration, Sales, Analytical, R&D and Manufacturing
- Largest rich metals (>5%) PGM Refinery in NA
- High level of security
- ISO-9001 Quality certification
- TS-16949 Quality certification
- ISO-14001 Environmental certification
- RC-14001 Responsible Care



Focus on the Precious Metals and Minor Metals Rhenium and Titanium

Group	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Period																		
1	1 H																	2 He
2	3 Li	4 Be										5 B	6 C	7 N	8 O	9 F	10 Ne	
3	11 Na	12 Mg										13 Al	14 Si	15 P	16 S	17 Cl	18 Ar	
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
6	55 Cs	56 Ba	* 71 Lu	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
7	87 Fr	88 Ra	** 103 Lr	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Uub	113 Uut	114 Uuq	115 Uup	116 Uuh	117 Uus	118 Uuo

Selling to a broad spectrum of markets



Johnson Matthey

Market	Product made by customer	PGMs
Automotive	Catalytic converters	Pt, Pd, Rh
Petroleum	Reforming catalysts	Pt, Pd, Rh, Re
Plastics	Organics, silicones, release coatings	Pt, Rh
Aerospace	Blades of turbines	Pt, Re
Electronics	Gas sensors, sputtering targets, solar cells	Pt, Pd, Ir, Ru
Nuclear	Nuclear waste disposal	Rare earths
Others	Pigments, scavengers, etc.	Pt, Pd, Rh



Examples of PGM Refining Markets



- PGM Mines
- Other Mining
- Base Metal Refiners
- Pharmaceutical
- Chemical/Industrial
- Petrochemical



Questions?

