

Thermo Scientific™ products in the iron and steel manufacturing process

Raw materials processing

- Weight verification
- Elemental analysis using XRF and SEM/EDX
- Phase analysis using XRD
- Handheld XRF analysis
- Online elemental analysis of coal
- Density, flow and level measurement
- Online gas and moisture analysis
- Radiation measurement and protection
- Particulate monitoring
- Laboratory informatics

Steel making

- Elemental analysis using Spark OES, XRF and SEM/EDX
- Inclusion analysis using Spark OES and SEM/EDX
- Handheld XRF analysis
- Flow measurement
- Online gas analysis
- Radiation measurement and protection
- Particulate monitoring
- Laboratory informatics

Hot rolling

- Thickness measurement and lab XRF analysis
- Profile measurement
- Data acquisition & management
- Radiation measurement and protection
- X-ray source/flux stability

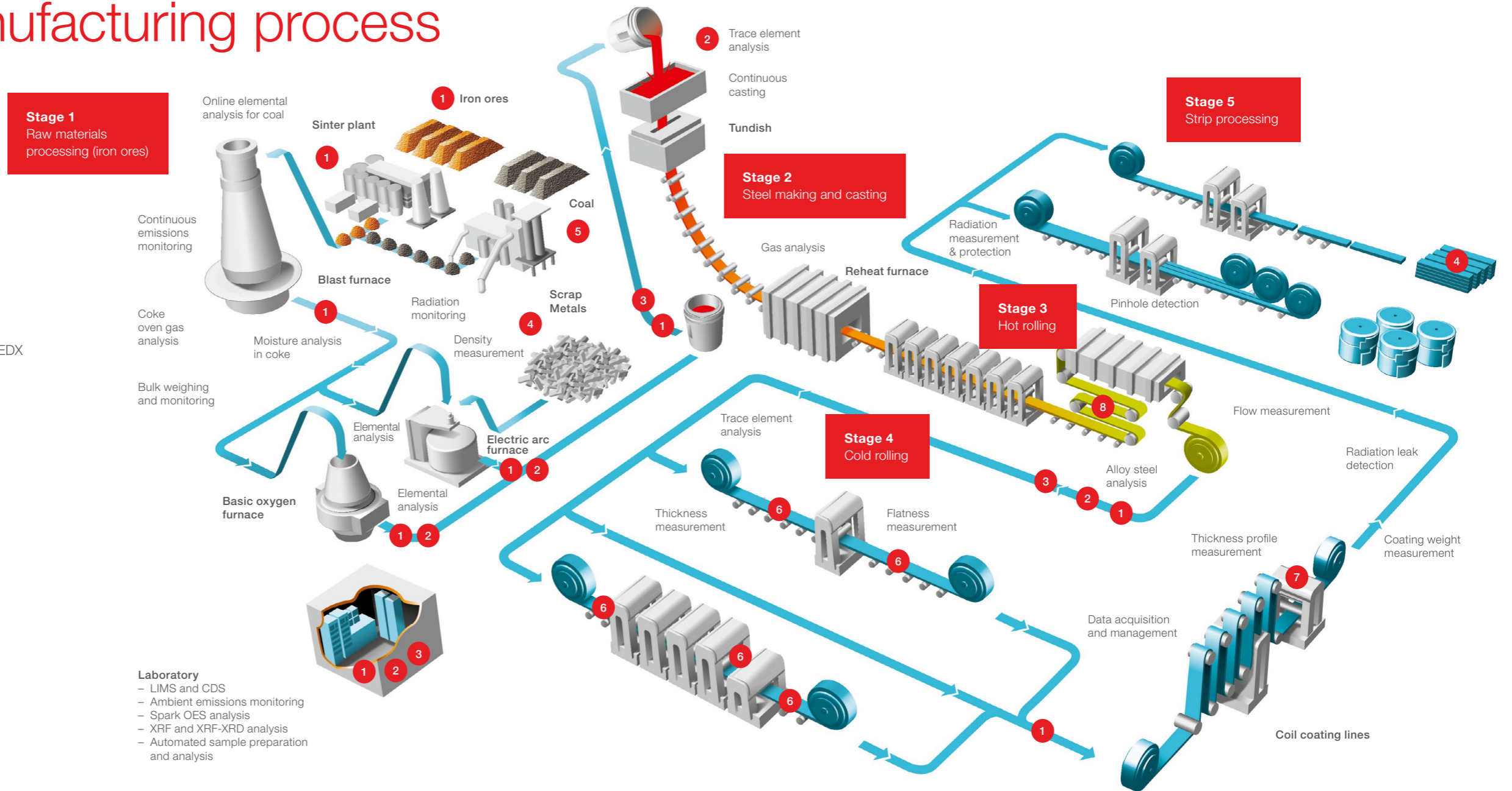
Cold rolling

- Thickness measurement and lab XRF analysis
- Elemental analysis using Spark OES
- Gas analysis
- Data acquisition & management
- Radiation measurement and protection

Processing lines and finished products

- Coating weight measurement
- Thickness measurement
- Elemental analysis using Spark OES, XRF and SEM/EDX
- Inclusion analysis using Spark OES and SEM/EDX
- Laboratory informatics
- Gas analysis
- Radiation measurement and protection
- Data acquisition & management
- Particulate monitoring

Thermo Scientific products useful at this stage



1



Thermo Scientific™
ARL 9900
X-Ray Workstation

2



Thermo Scientific™
ARL iSpark OES
Metals Analyzer

3



Thermo Scientific™
ARL SMS
Automated Analyzers

4



Thermo Scientific™
Niton™ XL5 Analyzer

5



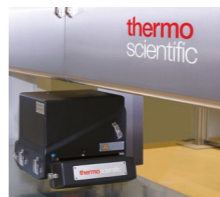
Thermo Scientific™
CB Omni Fusion
Sinter Analyzer

6



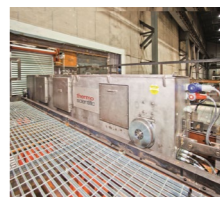
Thermo Scientific™
RM 210 CM
Thickness Gauge

7



Thermo Scientific™
RM 315 EC Galvanneal
Coating Weight Gauge

8



Thermo Scientific™
SIPRO Simultaneous
Profile Gauge