

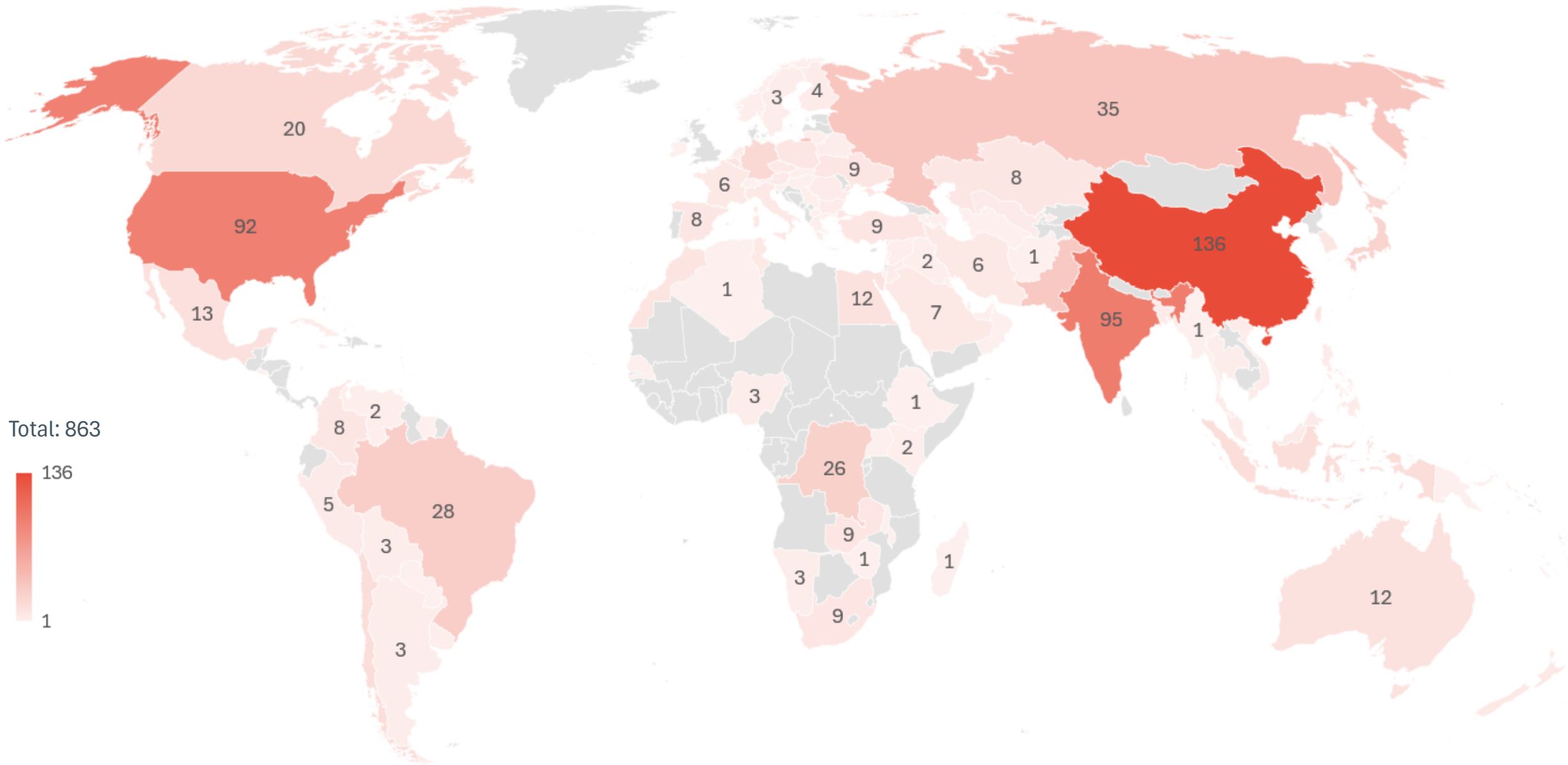
+ 9th Sulphur and Sulphuric Acid Conference

Hatch Sponsorship Presentation



27 May 2025

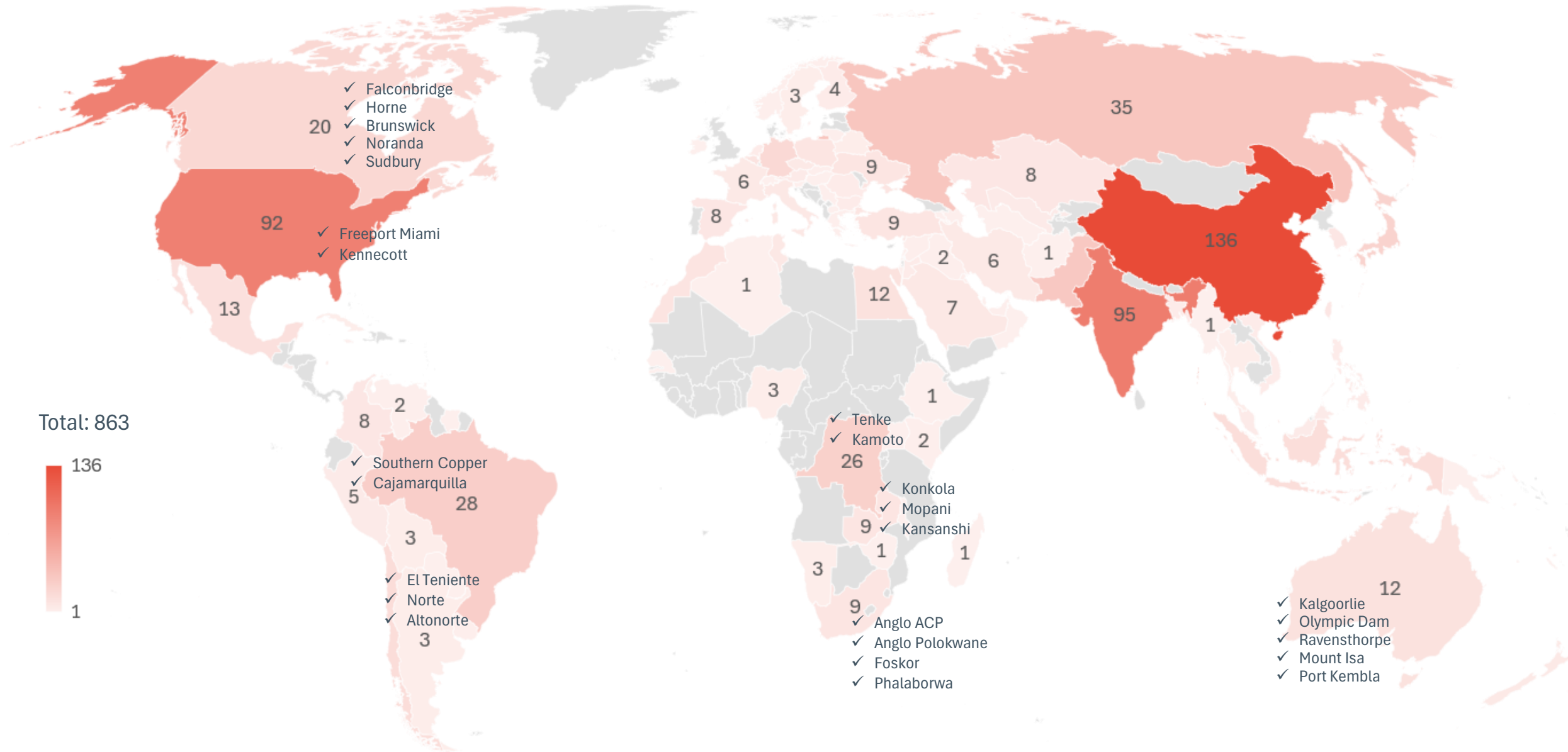
Sulphuric Acid Plants in the World Today



Hatch and Acid Plants



Sulphuric Acid Plants in the World Today & Hatch

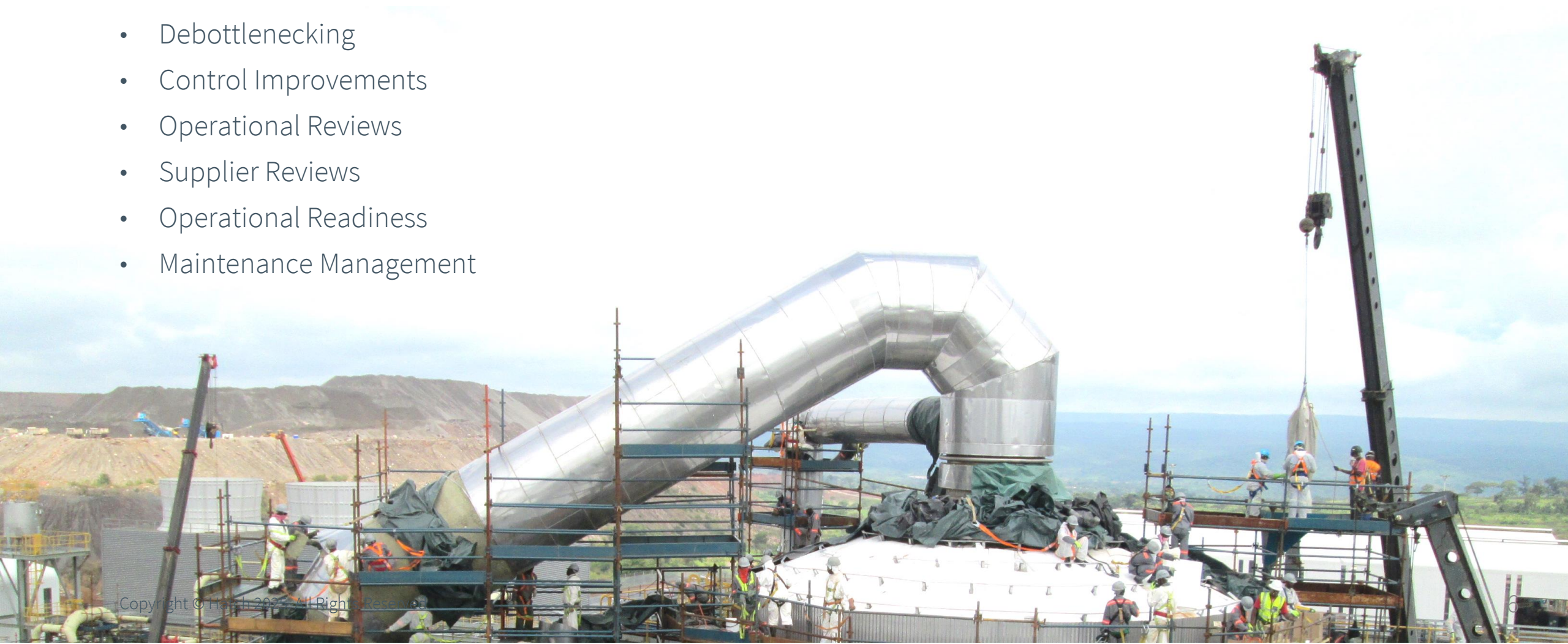


Predominant Smelter SO₂ Off-gas Cleaning Arrangements

Process	→	Gas Cooling	→	Hot Cleaning	→	Wet Cleaning	→	SO ₂ Collection	Hatch Experience
Outokumpu Flash		Boiler		ESP		Scrubber + WESP		Acid Plant	BHP (Olympic Dam, Kalgoorlie Nickel Smelter) Rio Tinto – Kennecott
Inco Flash		Direct Quench		-		Scrubber + WESP		Acid Plant Liquid SO ₂	Vale Inco Hayden
Mitsubishi Process		Boiler Spray Cooling		ESP		Scrubber + WESP		Acid Plant Liquid SO ₂ Tail Gas Scrubbing	Kidd Creek Naoshima Port Kembla
Noranda/ Teniente		Spray Cooler Radiant Cooling		ESP		Scrubber + WESP		Acid Plant Liquid SO ₂ Tail Gas Scrubbing	Horne Patrellios
Peirce-Smith Converting		Spray Cooling Radiant Cooling Direct Quench		ESP		Scrubber + WESP		Acid Plant	Zimplats Horne Gaspé
Ausmelt/ ISASMELT		Boiler Spray Cooler		ESP		Scrubber + WESP		Acid Plant	FMI - Miami Anglo Platinum (Valterra)
Electric Furnace		Spray Cooler		ESP		Scrubber + WESP		Acid Plant	Anglo Platinum (Valterra) Zimplats

Hatch's Role

- Design Criteria Development
- Technology Selection (Impartial View)
- Studies
- Debottlenecking
- Control Improvements
- Operational Reviews
- Supplier Reviews
- Operational Readiness
- Maintenance Management



+ BHP Olympic Dam

- EPCM to support expansion of existing smelter and refinery
- Several design and supply vendors
- Greenfields new FSF with new hot gas cleaning and new 2700 tpd DCDA
- Brownfields expansions and modifications





Anglo Platinum (Valterra)

- EPCM for all study phases and execution for SO₂ abatement of electric furnace off-gas
- New brownfields hot gas cleaning plant (ESP and spray cooler) with new furnace duct tie-ins
- New greenfields wet gas cleaning, WSA plant and balance of plant





Tenke Fungurume

- EPCM for the installation of a new sulphur burning 1400 tpd DCDA with tailgas scrubber
- Integrated steam turbine power generation
- New and expanded balance of plant



+ Zimplats

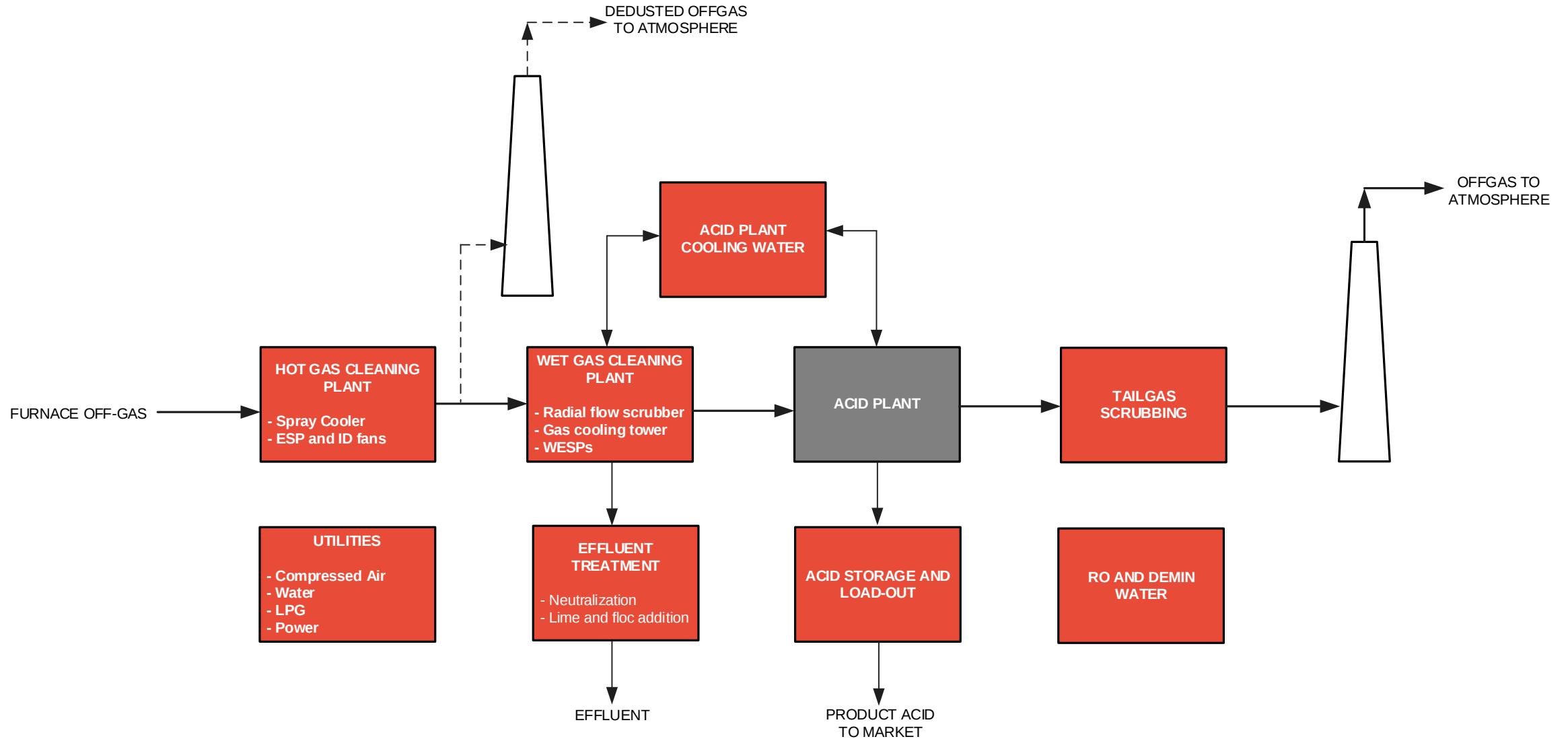
- EPCM for all study phases and execution for smelter expansion and SO₂ abatement of electric furnace and Peirce-Smith Converter off-gas
- New greenfields wet gas cleaning, WSA plant
- Integrated smelter and SO₂ abatement balance of plant



Balance of Plant



Balance of Plant



General SO₂ Abatement





General SO₂ Abatement & Hygiene Management

- Sodium-based Scrubbing
- Calcium-based Scrubbing
- Dual-Alkali Scrubbing
- Peroxide Scrubbing
- Fugitive Off-gas Capture and Treatment
- Building Ventilation Design



Let's build positive
change, together.

Thank you.

For more information, please visit hatch.com