

External Movable Shading Systems: Strategy to Scaling-up

Cutting direct and diffuse solar radiation: Examples of external shutters and movable blinds from many countries



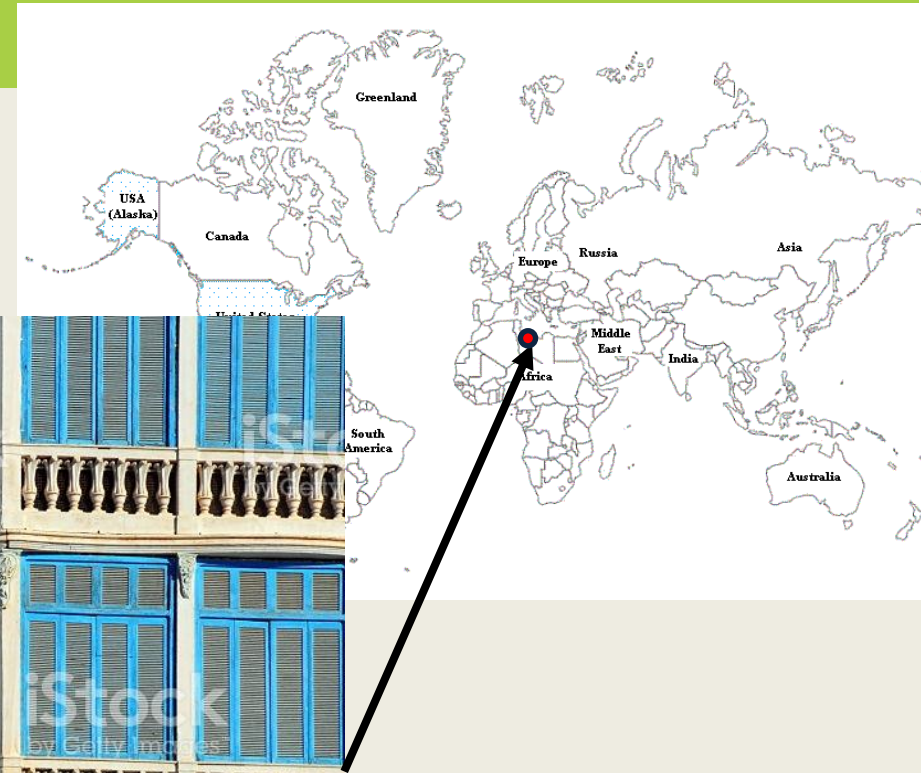
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Shutters and external blinds

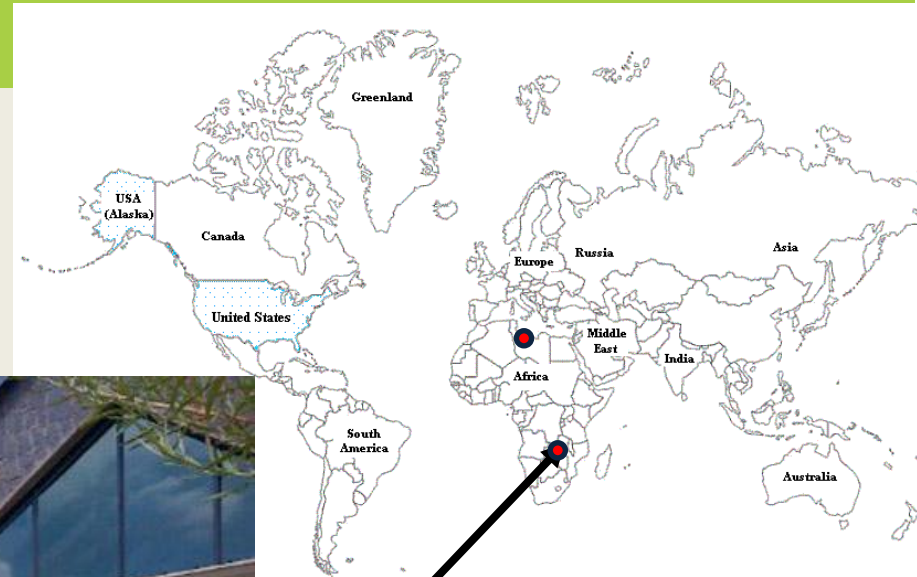
- Are used extensively in many places in the world



Algeria



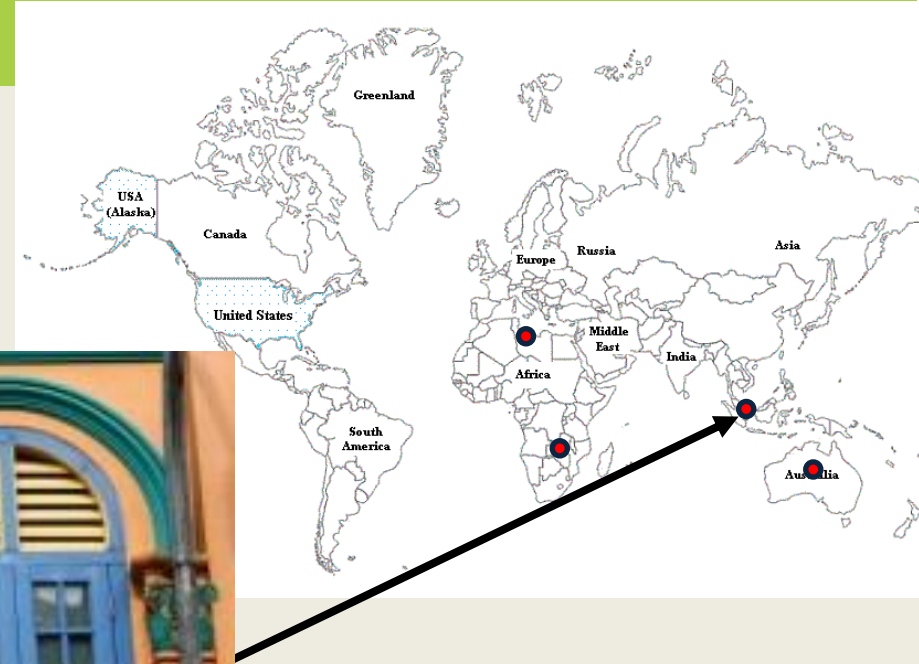
Zambia



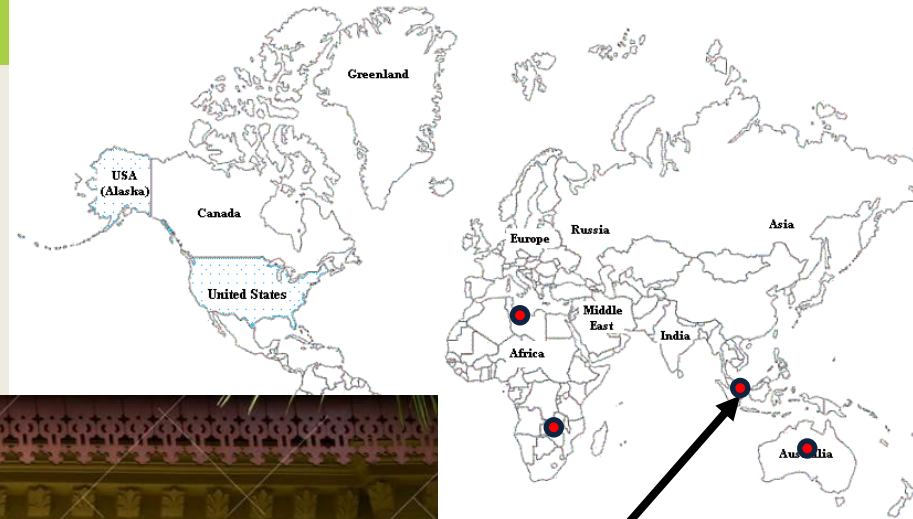
Australia



Singapore, Chinatown



Singapore, Malay heritage district



Thailand



Kuwait



Greece



Greece



Greece



Italy

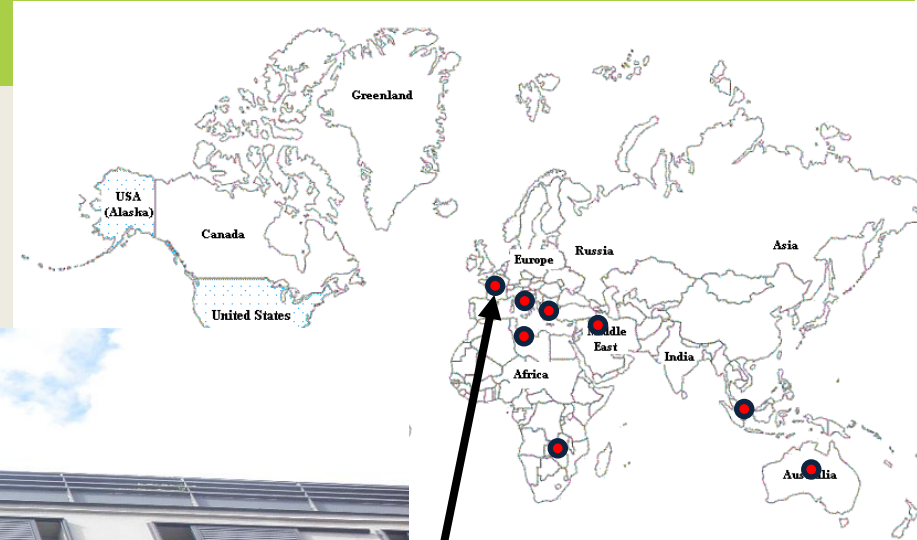


France

- Typical 1930-50 steel shutters



France, Paris



- Early 20th century next to 2010



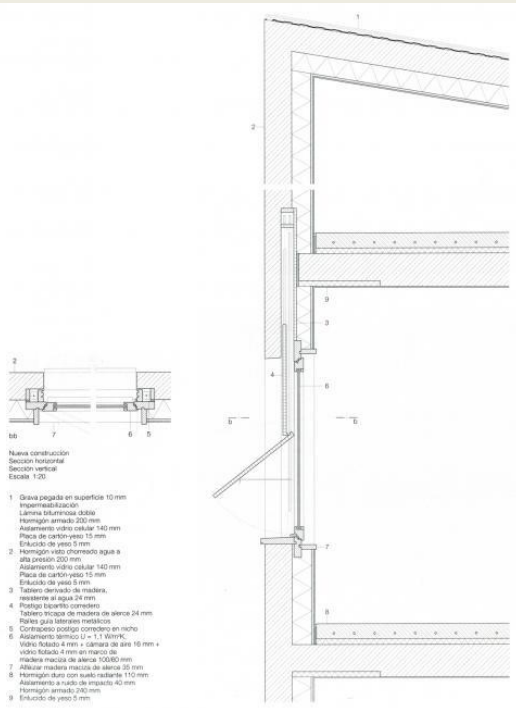
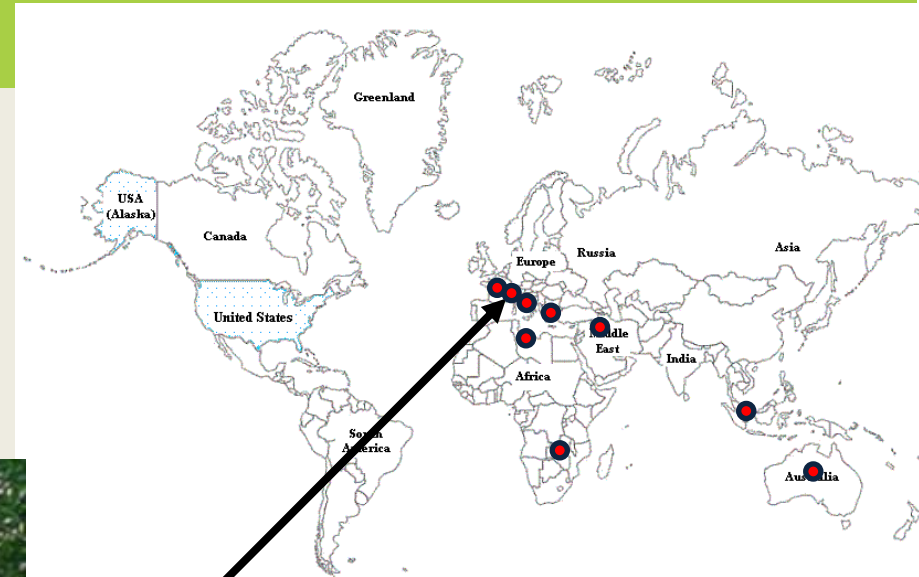
Switzerland, Zurich



Switzerland, central plateau



Switzerland, Ticino



Switzerland



Switzerland



- detached frame, retrofit



Spain, Andalousia

- Max temperature in summer: 42 °C



Spain, Andalousia



Spain, Andalousia



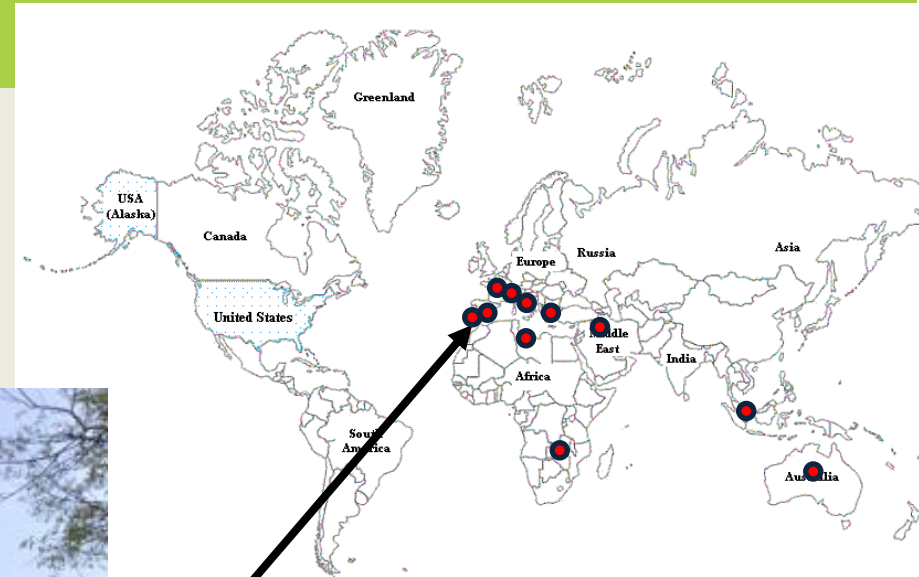
Spain, Malaga



Spain, Balears



Portugal



Germany



Argentina, Buenos Aires



Mexico



Cuba, La Habana



Cuba, La Habana



Cuba, country side



Cuba, Vinales



Incomplete inventory of countries using external shutters

