M2DESCO

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Developing next generation of green and sustainable coatings

M2DESCO develops next-generation high-entropy-alloy multi-component coatings that are green (non-toxic) and sustainable (rare-earth-free, minimal critical metals), with predictable performance: +100% wear resistance, +50–60% corrosion/oxidation resistance, and ≥70% lower material criticality.

It combines AI/ML-driven computational modelling, a Safe and Sustainability by Design framework, and high-throughput characterisation to cut development cycle-time by 400–500%, while optimising alloy design and coating processes to reduce manufacturing cost by 20%.

The outcome: lower EU corrosion and wear losses, stronger EU leadership in materials modelling, and a more innovative coatings industry.

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