

Foreword to the CREAM 5.0 International Conference

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Il faudrait d'abord que les spécialistes, ingénieurs et autres, aient suffisamment à cœur non seulement de construire des objets, mais de ne pas détruire des hommes. Non pas de les rendre dociles, ni même de les rendre heureux, mais simplement de ne contraindre aucun d'eux à s'avilir.
What would be needed, first of all, is for specialists – engineers and others – to care enough not only to produce items, but not to destroy human beings. Not to make them docile, nor even to make them happy, but simply never to compel any one of them to debase themselves.

Expérience de la vie d'usine (1941)
Simone Weil

Reading Weil's words, one may wonder whether Industry 5.0 is truly the new concept it is promoted to be. Yet the complexity of today's industry — and, beyond it, the overwhelming complexity of the issues our world faces — makes the implementation of Industry 5.0 a challenge worth our attention. The definition of Industry 5.0 itself, articulated around human-centricity, resilience, and sustainability, retains a certain vagueness even once stripped of its policy prose, and this vagueness is part of what motivates our conference.

The contributions gathered in this volume provide a clearer view through three prisms: a geographical one, linking the Japanese Cabinet's vision of Society 5.0 to the European formulation of Industry 5.0; a sectoral one, bringing together voices from industry and from academia, including reflexive contributions on how 5.0 is taught; and a conceptual one, examining each of the three pillars of the definition in turn.

From these perspectives emerges a working definition of Asset Management 5.0: a provider of key performance indicators for the components of Industry 5.0, a way for engineers to give quantitative form to these objectives and to track their evolution over time. As such, Asset Management 5.0 constitutes a new chapter in asset management. It redefines value beyond performance in its usual acceptance, by including indicators that reflect a broader picture: the human-centricity of our processes, their sustainability, and their resilience. This objective can only be reached through dialogue between the three points of view above.

This is what brought the CREAM 5.0 consortium together. Under the T.I.M.E. Association, we wished to showcase the global interest in Asset Management 5.0 — not only as an industrial matter,

but, in our capacity as academics, as an educational priority. With four founding partners on three continents, the consortium brings together genuine multicultural perspectives on human-centricity, sustainability, and resilience.

In these proceedings, the reader will find three sessions presenting recent advances on broad topics: Education, Training and Sustainable Work Organization; Sustainable Manufacturing, Materials and Process Optimization; and Asset Management, Digital Twins and Decision Support. These sessions address, in turn, the importance of preparing the industrial workforce for the 5.0 perspective, the concrete ways in which 5.0 concerns may reshape tangible industrial processes, and the broader industrial strategies that follow.

Complementing the sessions, two keynote addresses anchor the conference: Prof. NAKAGAWA Masao (Doshisha University), on “Latest situation of Society 5.0 in Japan and discussion on convergence knowledge,” bringing the Japanese perspective directly into the conversation; and Prof. Ruth CARRASCO GALLEGO (Universidad Politécnica de Madrid), on “Shaping Minds, Designing Resilient Futures: Engineering for the 5.0 Era,” articulating a vision of engineering education for the coming decades.

In the near-sighted world we inhabit, my personal hope is to build momentum. But momentum without strategy is quick to become wasted energy. This, to me, is the essence of Industry 5.0: a strategy that contributes to a world that remains habitable and hospitable, where no one is compelled to debase themselves. Across disciplines and across borders, in and out of this conference, I wish for the fruitful dialogues that may lead us toward a sustainable future — and, I hope, toward a second edition of this conference.

Lucas Equeter
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