# Press Release

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TÜV SÜD launches "Adaptive Safety & Security System" –
A dynamic approach to safety in smart manufacturing

Hong Kong, February 2021

Industry 4.0 (I4.0) has already become a reality across industries and organizations with its unprecedented potential for higher flexibility, customization and efficiency levels. At the core, this is achieved through *digitalized* and *interconnected* industrial assets enabling data exchange between machines, humans, and enterprise systems. While benefits of I4.0 are obvious, less obvious and often ignored are the underlying physical and cyber risks introduced by *changing configurations and interactions* between digital assets, humans, property and the environment. This is particularly relevant to "*Smart Manufacturing*" systems which are *flexible by design.*

Safety and *Security* constitute two major challenges for all stakeholders of smart manufacturing - system designers, integrators, system owners and operators. Applying conventional risk assessment to dynamic I4.0 contexts that feature a multitude of interactions and data flows is becoming impracticable. At TÜV SÜD, we address this challenge with a novel solution: **Adaptive Safety & Security System (AS3).** AS3 assists you in navigating complex risk landscapes in both virtual environments and real-world applications.
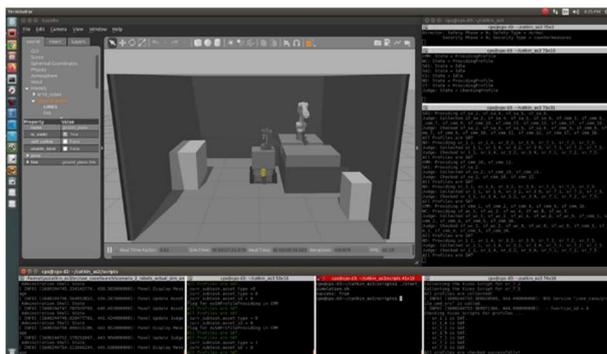
Simulation Environment

Physical Execution

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AS3 is based on a new method for *dynamic risk assessment* by means of "*digital safety and security profiles*", processed by its inference engine against actual application constraints, providing automatic and instantaneous risk evaluations.

The new method was conceived and developed in Hong Kong by an international team of TÜV SÜD experts. *Proof of Concept* was realized in collaboration with the Cyber-Physical Systems department of Hong Kong Applied Science and Technology Research Institute (ASTRI) which is dedicated to using Model-Based Systems Engineering (MBSE) to design, synthesize and validate mission-critical systems for smart factories (I4.0).

Embedding safety and security into your I4.0 solutions builds *trust* and *confidence* with asset owners and operators. As part of the Digital Twins of industrial assets, AS3 can be used in the *design phase* for *(off-line)* risk assessment *simulations* and *at runtime* for *instantaneous reaction to change events.* AS3 can be interfaced with existing simulation tools and be hosted on enterprise platforms.
Ultimately, with AS3 you can control and reduce potential downtimes due to safety hazards and cyber security threats.

AS3 is under IP patent protection of TÜV SÜD Hong Kong Ltd.

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Founded in 1866 as a steam boiler inspection association, the TÜV SÜD Group has evolved into a global enterprise. More than 24,500 employees work at over 1,000 locations in about 50 countries to continually improve technology, systems and expertise. They contribute significantly to making technical innovations such as Industry 4.0, autonomous driving and renewable energy safe and reliable.
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