



PRESS RELEASE

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MangoGem launches ORITAMES APS Scheduler v2.5 adding extended AI capabilities for improved planning and scheduling optimization

- ORITAMES APS Scheduler v2.5 to be exhibited at Hannover Messe 2019 (Hall 5, Stand F33/1) from April 1-5, 2019
- Ideally suited to a wide variety of industries including discrete manufacturing, construction and infrastructure projects, logistics and transportation, equipment and property maintenance, engineering projects and service organizations



Photocaption: ORITAMES APS Scheduler v2.5 screenshots showing example non-optimized (left) and optimized (right) set-up and production schedules.

Brussels, Belgium – March 27, 2019. MangoGem S.A., an innovative provider of intelligent software solutions for challenging enterprise problems, has launched Version 2.5 of its powerful ORITAMES Advanced Planning and Scheduling system. The ORITAMES APS Scheduler v2.5 incorporates autonomous Artificial Intelligence (AI) capabilities for improved planning and schedule optimization as well as improved modeling of sequence dependent setups, batching and time constraints, making it ideally suited to large, real-life problems taking into account the complex constraints of real cases.

"The ORITAMES APS Scheduler v2.5 uses AI-assisted autonomous machine learning to explore optimization scenarios better than traditional approaches, combining the best of machine computing power and human know-how to facilitate better planning and scheduling," said Ben Rodriguez, Chief Technology Officer of MangoGem. With solver heuristics notoriously difficult to fine tune, the ORITAMES APS Scheduler v2.5 discovers which settings work best, checks validity and detects trends in data to improve ramp-up and adoption. It can also discover the most promising improvement scenarios and propose them as potential solutions to human planners. It combines several AI-assisted machine learning meta-heuristics including Genetic Algorithms (GA), Taboo Search (TS), Simulated Annealing (SA), Swarm Intelligence (SI) amongst others. The use of AI-assisted autonomous machine learning also eases the integration and reduces the cost of implementation of the ORITAMES APS Scheduler v2.5 within overall supply chain management (SCM) strategies by making modeling easier, improving data quality and decreasing dependency on human expertise.

Unlike traditional APS schedulers, which can only handle one type of resource or only a single resource per activity, ORITAMES APS Scheduler v2.5 is a multi-resource scheduler capable of handling multiple instances of equipment, people, consumables, tools, locations etc. It can also combine several resources together and any activity can have multiple modes to closely model reality. It also supports the selection of multiple objectives and multiple criteria, such as makespan, deadline satisfaction, cost reduction, Just-in-Time, throughput, resource utilization or consumables usage, combining several key performance indicators (KPIs) together, producing optimal schedules and analyzing objective trade-offs and "what if" scenarios without effort.

<u>MGM001 / MangoGem launches ORITAMES APS Scheduler v2.5 adding Al-assisted autonomous machine</u> <u>learning capability for improved planning and schedule optimization</u>

ORITAMES APS Scheduler v2.5 is platform-agnostic, running on MS Windows, Mac OS and a variety of UNIX and Linux platforms. It can be used as a standalone application or it can be easily integrated with other Enterprise Resource Planning (ERP) and Manufacturing Execution Systems (MES) tools. It can be used offline, online and even in real-time and its parallel, multi-threaded solvers ensure that it creates optimal scheduling solutions extremely fast.

ORITAMES APS Scheduler v2.5 is ideally suited to a wide variety of industries, organizations and applications including discrete manufacturing (metal, glass, furniture, electronics, quarries, food processing etc.), construction and infrastructure projects, logistics and transportation, equipment and property maintenance, engineering projects and service organizations (schools, hospitals etc.). It's flexible modeling capabilities and business rules scripting extensions, make it easily adaptable to many applications without the need for heavy customised programming.

"The AI-assisted disruptive technology delivered in ORITAMES APS Scheduler v2.5 is capable of solving many of the operational performance challenges of Industry 4.0," concluded Ben Rodriguez, CTO of MangoGem. "It uses AI-assisted autonomous machine learning techniques with multiple solvers and heuristics and, depending on an analysis of the case at hand, will apply many methods to find the one that produces the best results."

About the MangoGem S.A.

Founded in 2002 and headquartered in Brussels, Belgium, MangoGem is an innovative provider of intelligent software solutions for challenging enterprise problems. MangoGem operates worldwide through its direct salesforce and growing network of value-added resellers in Europe, the Americas and Asia-Pacific. MangoGem's business focus is on the development of Advanced Planning and Scheduling software, Decision Support Systems and reusable software building blocks and components for creating embedded and real-time applications. Its principal product is the ORITAMES APS Scheduler. MangoGem operates in a broad range of industry sectors including R&D, information technology, manufacturing, microelectronics, aerospace, industrial control and automation, and medical systems.

For further information, visit: www.mangogem.com or www.oritames.com

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