

## ***Strategic Partnership to Drive the Industrialisation and Adoption of Additive Manufacturing (AM) in Singapore.***

Following the signing of a Memorandum of Understanding between Singapore Institute of Technology (SIT) and Sodick Singapore Techno Centre (SSTC), both parties have united our expertise and resources to drive the advancement and adoption of Additive Manufacturing (AM).

### **Collaboration Highlights:**



Knowledge sharing and transfer on Hybrid Metal 3D Printing.



Joint showcase of AM capabilities at Industrial Transformation Asia Pacific (ITAP) 2023.



Exciting insights exchanged between SIT, NAMIC Hub@SIT, Sodick Japan and SSTC to chart new paths for collaboration in the realm of AM.



Co-hosted students & engineers to dive into the world of Industry 4.0 and cutting-edge AM technologies.



## ***Unveiling Our Latest Technological Marvels!***

### **Hybrid Metal Printing**



#### **Sodick OPM250L**

##### **Technology:**

Hybrid Metal Printing (combination of Laser Metal Sintering + High Speed Milling)

##### **Technical Specifications:**

<b>Build Volume (XYZ)</b>	250 x 250 x 250mm
<b>Thickness Height</b>	0.05mm
<b>Laser Precision</b>	± 0.03mm
<b>Min Feature Size</b>	0.2 to 0.6mm
<b>Technology</b>	Precision Machining (Cutting)
<b>Spindle Speed</b>	6k to 45k rpm
<b>Torque</b>	0.8Nm
<b>Cutting Precision</b>	0.1µm
<b>Material (powder)</b>	<b>(in-house)</b> Maraging Steel, Stainless Steel, Tool Steel <b>(partner)</b> Aluminium, Titanium, Copper, etc.

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## Polymer Printing



### ASIGA PRO 4K XL

#### Technology:

Digital Light Processing (DLP)

#### Technical Specifications:

<b>Build Volume (XYZ)</b>	217 x 122 x 400mm
<b>Thickness Height</b>	0.01mm
<b>Min Feature Size</b>	0.056, 0.08mm
<b>Material (resin)</b>	ABS-like, PP-like, Flexible, Clear, High-temp, Castable, Wax and more

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### CreatBot D600Pro

#### Technology:

Fused Deposition Modeling (FDM)

#### Technical Specifications:

<b>Build Volume (XYZ)</b>	600 x 600 x 600mm
<b>Thickness Height</b>	0.05 to 0.3mm
<b>Min Feature Size</b>	0.6, 0.8, 1.2, 1.6, 2.0mm
<b>Material (filament)</b>	PLA, ABS, Carbon Fiber, Wood, Nylon, PC, PETG, HIPS, PP, Flexible, TPU, PVA

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## Flashback



### Industrial Transformation Asia Pacific (ITAP) 2023

ITAP 2023 brought together industry leaders and innovators to drive the transformation of Industry 4.0. In collaboration with Sodick Singapore, NAMIC Hub@SIT showcased our unique capabilities in Hybrid AM and Design for Additive Manufacturing (DfAM) with industry applications.



### IEEE-SIT Student 3D Printing Workshop 2023

At the workshop, NAMIC Hub@SIT shared on 3D design printing knowledge and students created a portable speaker with housing by 3D printing.



## **SIT-SSTC MNO AM Learning Journey 2023**

In collaboration with Sodick Singapore Techno Centre (SSTC), SIT curated a learning journey for our Naval Architecture and Marine Engineering students. The specialised event delved into the realms of advanced manufacturing, emphasising the pivotal role of automation and additive manufacturing in shaping the future of the industry.



## **AM Outreach Sharing with AY23 IWSP Students**

To forge a connection between academia and the latest industry developments, NAMIC Hub@SIT orchestrated a series of outreach sessions to acquaint students from MNO, MDME, CVE, MEC, and EPE cohorts with our centre's capabilities and offerings. The outreach also aimed to underscore the potential integration of AM into the IWSP projects.

### ***Be Part of Our Community!***



#### **NAMIC Hub@SIT**

Printing your ideas to life.

Research Services · Singapore · 72 followers · 2-10 employees

#### **New LinkedIn Page**

Subscribe to our centre's LinkedIn Page to connect with AM professionals and stay updated on latest insights!

*Be among the 10 lucky subscribers and receive a special edition souvenir from NAMIC Hub@SIT!*

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## Industry Highlights

### Singapore



#### **New Healthcare R&D Lab to Explore 3D-printed Body Parts & Customised Medical Implants**

Nanyang Technological University and Singapore General Hospital tied up a joint R&D lab in AM to explore 3D printing living tissues for regenerative medicine and developing 3D prosthetic and orthotic devices.

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#### **NAMIC & Valuence Ventures Announce Strategic Partnership to Accelerate Start-ups to Global Market**

NAMIC Singapore and Valuence Ventures have signed a Memorandum of Understanding to connect the deep tech innovation ecosystems in Singapore, South Korea and North America.

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#### **thyssenkrupp and Wilhelmsen Collaborate on New 3D Printing Joint Venture**

Pelagus 3D, a joint venture between thyssenkrupp and Wilhelmsen, envisions being the largest one-stop, on-demand digital manufacturing partner using 3D Printing for the global maritime and offshore industries.

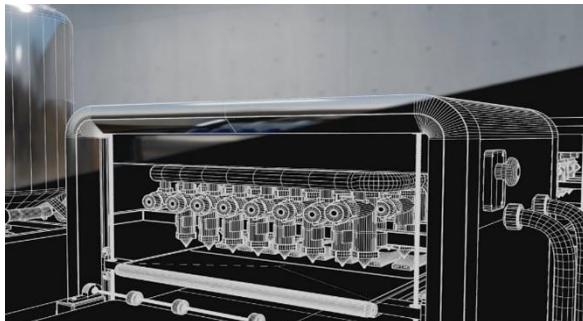
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#### **Tiffany & Co.'s New 3D Printed Store Façade is Woven from Fishing Nets**

Singapore Changi Airport has unveiled a Tiffany & Co 3D printed store façade constructed using recycled materials, seamlessly blending innovation with its iconic elegance and pledge to sustainability.

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Overseas

### **Revo Foods Launches 'Industrial-Scale' Food 3D Printer**

Austrian foo-tech company Revo Foods has launched the Food Fabricator X2, a new high-throughput food 3D printer. According to the company, this is the 'world's first industrial production method for 3D printed food'.

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### **New Modular Concrete 3D Printer Unveiled by RIC**

In a move set to shake-up the additive construction (AC) landscape, RIC Technology has launched the RIC-M1 PRO concrete 3D printer at World of Concrete 2024. RIC promises that its latest release will help to redefine cost-effectiveness, efficiency, and labour reduction in construction 3D printing.

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### **The AI Transformation in Additive Manufacturing**

In the AM industry, AI is spearheading a transformative revolution. Generative AI is streamlining processes and rapidly evolving towards human-level performance. Fundamentally altering how problems are approached and resolved in the 3D printing landscape.

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### **Urban Reef on Using 3D Printing and Natural Materials for Greener Cities**

Urban Reefs, a Dutch startup, integrates generative AI, 3D printing and natural materials to craft sculptures called "reef", aiming to create liveable microclimates for diverse organisms. Currently using ceramics, the company is actively exploring biobased alternatives such as olive pits and oyster shells.

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## Alloy Alchemy: Laser-Crafted Metals Defying the Limits of Strength

Traditional 3D printing of high-entropy alloys (HEA) often led to them being not very flexible. However, a recent breakthrough by scientists using laser-based AM has changed that. The new method creates HEA that are not only stronger but also more flexible compared to the previous ones. This could mean better and more durable materials for various applications.

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## GKN Aerospace Invests £50M in Sustainable 3D Printing

GKN Aerospace has announced a £50 million investment in the company's AM capabilities at its Sweden facility to enhance the sustainability of its overall operational footprint and accelerate AM's deployment for supply chain digitalisation.

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## Upcoming Events

### Overseas



#### TCT Asia 2024

TCT Asia offers an innovative event experience with networking opportunities, practical takeaways, and highly focused content to help designers, engineers and buyers evaluate, adopt, and optimise their additive requirements.

**Date:** 7 to 9 May 2024

**Venue:** NECC 7.1 & 8.1H (Shanghai), China

[REGISTER HERE](#)



#### Rapid.Tech 3D 2024

The 20<sup>th</sup> edition of Rapid.Tech 3D offers a successful triad specialist congresses, exhibitions, and networking opportunities for the AM industry. It is also a meeting place for start-ups as well as for experts and industry giants of AM.

**Date:** 14 to 16 May 2024

**Venue:** Erfurt Trade Fair, Germany

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## Additive Manufacturing Expo 2024

Additive Manufacturing Expo is an exhibition for AM and industrial 3D printing technology. It is part of the 10 specialised shows held within the Manufacturing World Japan, the largest manufacturing trade show in Central Japan.

**Date:** 19 to 21 June 2024

**Venue:** Tokyo Big sight, Japan

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## Rapid + TCT 2024

RAPID + TCT 2024 is a three-day event featuring the latest in 3D Printing technology from the industry's leading product and service providers, a full schedule of speakers including a keynote series, and over 125 hours of educational content. The expansive show floor will showcase over 400 exhibiting companies' latest advancements.

**Date:** 25 to 27 June 2024

**Venue:** Los Angeles Convention Centre, USA

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