

## Factsheet

### IMDA x AWS JOINT INNOVATION CENTER @PIXEL

Singapore's Infocomm Media Development Authority (IMDA) and Amazon Web Services (AWS) Joint Innovation Centre (JIC) is housed within IMDA's Innovation Hub, PIXEL – one of the leading launch pads in the region and supports the growth of promising start-ups under IMDA Accreditation and IMDA Spark programmes. The JIC will provide exclusive access to the latest tech showcases and demonstrations, innovation methodology for successful adoption and deployment, over 200 fully-featured AWS technology for experimentation, project-based consultation and be connected to IMDA's and AWS's network within Singapore and the region.

**Justin Ang, Assistant Chief Executive for Media, Innovation, Communications and Marketing at IMDA**, points out that the city-state's government plays an active role in helping start-ups grow and corporates transform digitally through disruptive tech innovations.

“Being the key business and financial hub in the region as well as a gateway to access the broader Southeast Asia, Singapore is often seen as a great test bed for new technologies. We are grateful to AWS for their strong partnership and how we jointly see the JIC as a strong platform that will support corporates and start-ups in Singapore and the region, as well as scale the growth of Singapore-based companies under IMDA's Accreditation and Spark programmes,” said Ang.

Corporates and start-ups are also encouraged to join innovation challenges via the Open Innovation Platform (OIP) – where IMDA bridges corporates with tech solutions, matching demand with supply. These services are complimentary, and corporates are required to only provide prize monies of between S\$20K and S\$50K when the prototype solution is completed. To date, OIP has facilitated over 300 challenges with a pool of more than 12,000 solution providers and more than \$13M in prize monies.

“Cloud technologies including artificial intelligence and machine learning can fast track innovation and enable startups to develop solutions quickly to solve society's most pressing challenges,” said

Rahul Sharma, Regional Managing Director, Worldwide Public Sector, Asia Pacific and Japan, AWS.

“We are excited to officially launch the IMDA-AWS Joint Innovation Center@PIXEL, which will provide local businesses with access to AWS technologies to enable them to experiment with solutions, bring new innovations to market, address government priorities, and transform industries.”



### Tech Showcase at IMDA-AWS JIC@PIXEL

Leveraging off AWS technologies and powered by start-ups from IMDA’s programme, showcases in the areas of smart cities, generative AI, robotics, and workplace safety was shown. These showcases will be refreshed every four to six months, look out for new and exciting showcases and updates to the JCI here.

#	Exhibition	Details
1.	<p><b>Learning Smart – AWS DeepRacer Arcade: Get Rolling with Machine Learning</b></p> <p><i>(Permanent exhibit)</i></p>	<p>AWS DeepRacer is an autonomous 1/18th scale race car designed to use Reinforcement Learning (RL) models for racing on a physical track. Using computer vision to navigate the track and a reinforcement model to control steering, with racers controlling only the speed of the car, AWS DeepRacer Arcade shows how a model trained in a simulated environment can be transferred to the real-world.</p> <p>Through learning about Reinforcement Learning and how RL can be used to navigate a virtual race car autonomously around the track, visitors get to learn about the fundamentals of Artificial Intelligence (AI) and Machine Learning (ML).</p>

2.	<p><b>Smart Cloud– Chaos Kitty!: Cloud Security Made Fun and Easy</b></p> <p><i>(Permanent exhibit)</i></p>	<p>An AWS innovation, <b>Chaos Kitty</b> is a security chaos engineering game that puts users in the seat of an incident responder, showing organizations how chaos engineering principles can be used to build more secure architectures and systems.</p> <p>Simulating a security incident where AWS is responsible for protecting the AWS cloud infrastructure, and users are responsible for security in the cloud, users must determine the amount of configuration work to perform as part of their security responsibilities. This showcase demonstrates how Security and Compliance are shared responsibilities and highlights the importance of automating the security in the cloud.</p>
3.	<p><b>Large-scale Crowd Simulations in AWS</b></p> <p><i>(Permanent exhibit)</i></p>	<p><a href="#">AWS SimSpace Weaver</a> is a managed service that enables the creation of expansive simulation worlds at increasing levels of complexity and scale.</p> <p>In this showcase, AWS SimSpace Weaver creates scenarios to test urban routines and major events in environments. This helps organizations to simulate scenarios to optimize new estate design, improve crowd flow, and prepare for dispersal during emergency situations. Uses cases may include crowd flow management in areas with high population densities and pose high risks during a stampede.</p>
4.	<p><b>Smart Living – PIXEL Bot: Living with Robots</b></p>	<p>PIXEL Bot is a roving robot that acts as the personal usher to visitors of the JIC. It integrates both <a href="#">Amazon Alexa</a>, Amazon’s voice AI technology, and <a href="#">Amazon Echo Show</a>, a touchscreen device which can be controlled via Alexa and display visual information.</p>
5.	<p><b>Smart Playing – Interpretive Art with AWS’ Generative AI</b></p>	<p>Paint a picture on a virtual canvas in seconds using AWS’s <b>Generative AI</b> technology, and machine learning models from software company, Hugging Face. The virtual artist can be built on AWS within a day and trained on existing machine learning models from the digital library of Hugging Face, enabling companies to learn the principles of building their own Generative AI tools from scratch.</p>
6.	<p><b>Smart Working/Living – Digital Twins for Sustainability</b></p>	<p>Experience how the <b>Internet of Things</b> and <b>digital twins</b> of smart buildings can be used to monitor and control digital equipment remotely, such as a building’s energy emissions. Created in collaboration with Singapore-based spatial computing company, <a href="#">Virspatial Technologies</a>, the virtual model is designed to reflect a physical building by drawing from data sets accessed and analyzed by AWS systems. It</p>

		can be used to improve a building’s sustainability efforts through initiatives such as carbon footprint tracking.
7.	<b>Smart Working – Workplace Safety and Inspection</b>	<b>Interior Inspector</b> automatically detects defects, locations, and reports issues for facilities managers and construction site personnel. Designed by B2B AI-driven intelligence company <a href="#">H3 Zoom.AI</a> , the showcase demonstrates how a hard hat mounted with off off-the-shelf 360 cameras can analyze and process information to enhance quality assessment and periodic maintenance processes.
8.	<b>Smart Living – Voice Authentication Safety</b>	<a href="#">Pindrop</a> is an information security company that provides risk scoring for phone calls to detect fraud and authenticate callers. It has a multi-factor voice authentication system which has been enhanced by AWS services such as Amazon DynamoDB, Amazon Connect, Amazon Kinesis Video and Data Streams, to better align with cloud security and data privacy expectations in Singapore.  Pindrop’s solutions have been implemented in eight of the top 10 US banks and five of the top seven US life insurers, and is an IMDA Accredited company to provide services to private and public organizations. It is available to organizations in Singapore via the <a href="#">AWS ISV Accelerate Partner Program</a> .

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## About Infocomm Media Development Authority

The Infocomm Media Development Authority (IMDA) leads Singapore’s digital transformation by developing a vibrant digital economy and an inclusive digital society. As Architects of Singapore’s Digital Future, we foster growth in Infocomm Technology and Media sectors in concert with progressive regulations, harnessing frontier technologies, and developing local talent and digital infrastructure ecosystems to establish Singapore as a digital metropolis.

For more news and information, visit [www.imda.gov.sg](http://www.imda.gov.sg) or follow IMDA on Facebook (IMDAsg) and Twitter (@IMDAsg).

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