IMDA GREEN DATA CENTRE PROGRAMME

Inviting Research Proposals to Develop Green Data Centre Technologies

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IMDA GREEN DATA CENTRE PROGRAM (GDCP)

RESEARCH, HUB & INDUSTRY TRANSLATION

Vision

Create a Sustainable Digital Infrastructure that makes efficient use of the limited natural resources to support Singapore's growing Digital Economy

RESEARCH

R&D-led Projects

- R&D projects with IHLs and RIs to develop green DC technologies
- R&D in the areas of high temperature DCs and smart DCs
- 6 ongoing R&D projects in liquid to the chip cooling, AI/ML optimizations etc.

HUB

IMDA-led Projects

- Platform for open collaboration amongst industry and research community
- Support emerging technologies for adoption via prototyping, proof-of-concept (POC) experimentation, test-bedding & validation
- Tropical **data** center, High-rise green data center

TRANSLATION

IMDA-Industry Implementation

- Translating POCs & studies into implementations
- Collaborating with DC industry in adoption and implementation of green technologies & solutions

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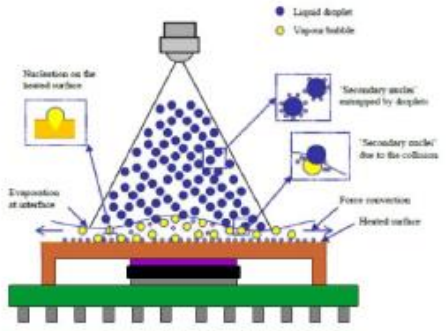
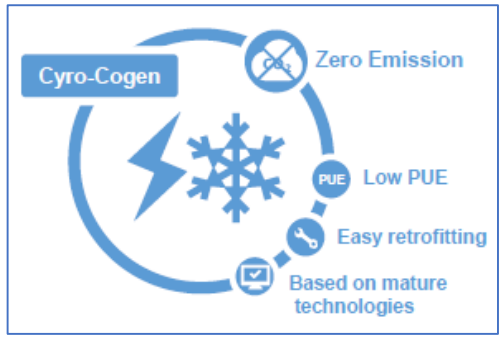
ONGOING GREEN DC RESEARCH PROJECTS

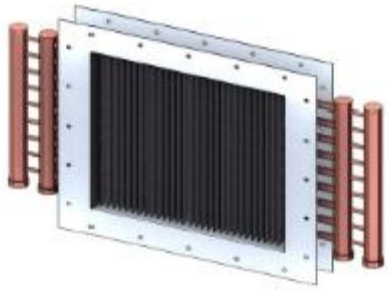
Projects funded under the 1st grant call



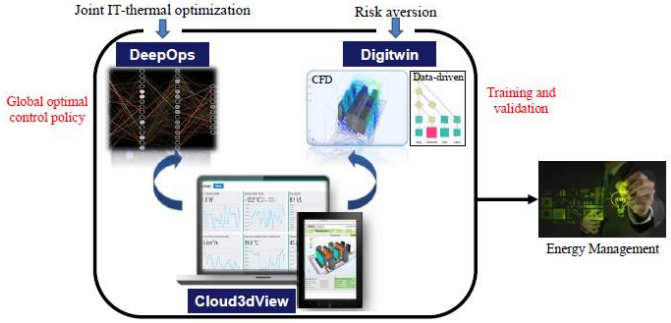
Spray Cooling using Dielectric Coolant



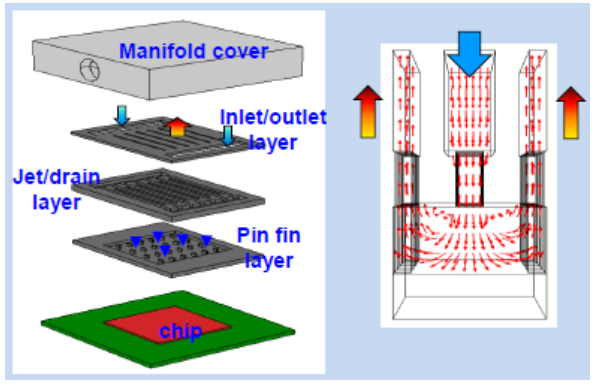
Cryogenic Energy System



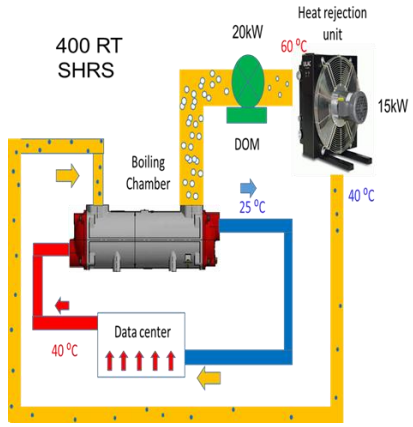
Novel Triple Fluid Heat Exchanger for Hybrid Cooling System



DC Optimization via Learning-based Algorithms



Advanced Liquid Cooling at Chipset level



Shunt Heat Removal System for cooling towers

2ND GRANT CALL

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RESEARCH TARGETS

GDCP focuses on overcoming critical barriers that constrain long-term sustainability and competitiveness of Singapore's DC industry. Key research areas include:

Research Area 1

- Systems that operate reliably between 40°C – 45°C in high humidity environments to reduce cost of cooling.

Research Area 2

- Smart DC solutions demonstrating energy savings of 20% over the current state-of-the-art.
- Use of sensors, controllers, data analytics, Artificial Intelligence (AI) and Machine Learning (ML) algorithms to holistically optimize various DC systems.

Research Area 3

- System and component-level technologies across IT, data hall and facility domain that contribute towards archiving PUE of 1.2 or better.

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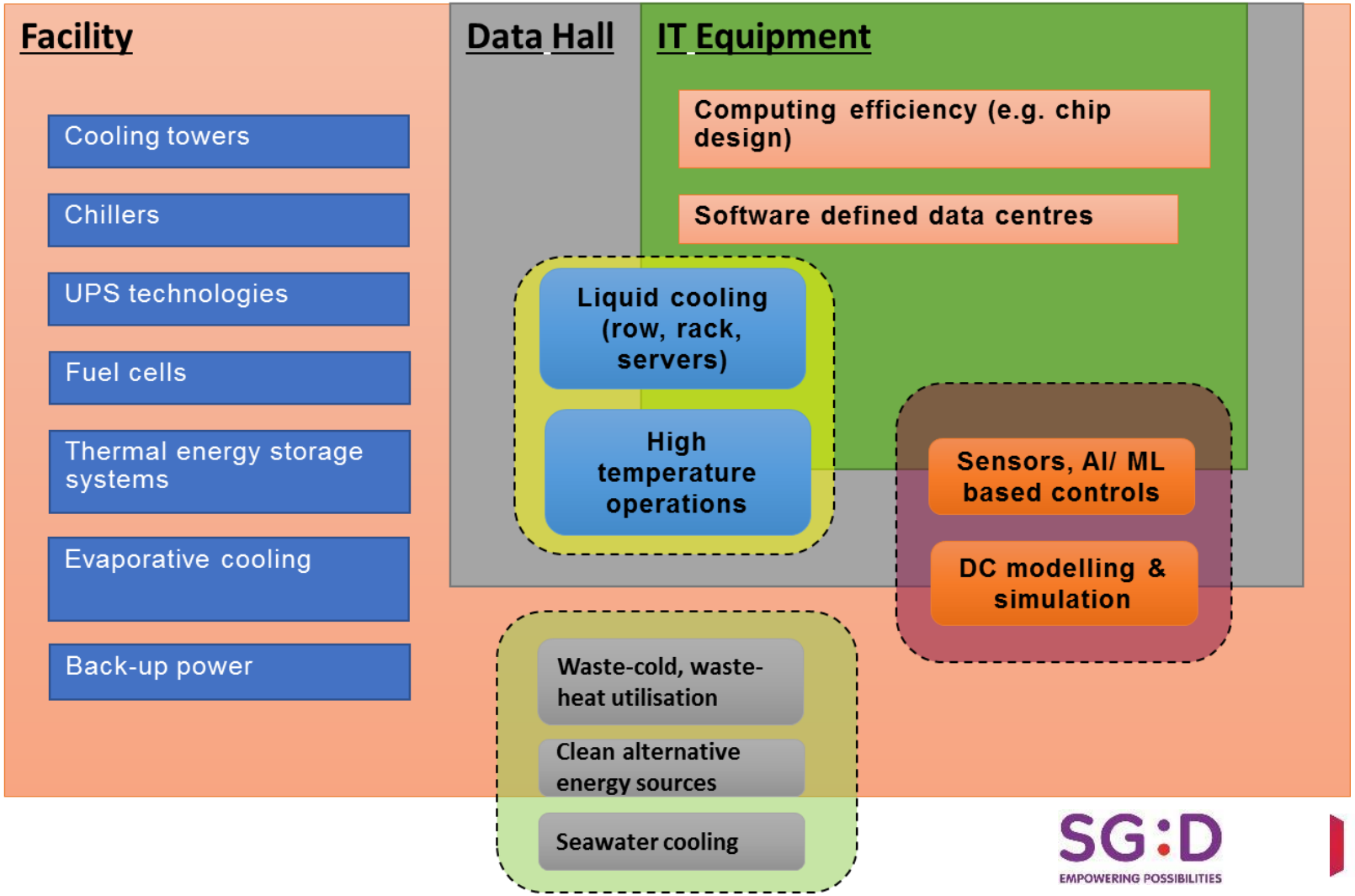
SUGGESTED RESEARCH AREAS

Non-exhaustive list of domain & cross-domain technologies that will be considered for this grant call



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APPROACH AND OUTCOME

Approach

- Competitive R&D grant call
- Project duration 2 to 3 years

Outcome

- Innovative green DC technologies developed
- Industry partnership to commercialize the research outcome

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ASSESSMENT CRITERIA

Significance of Research

- High-technical-merit research and innovation that is novel, internationally competitive, directly addresses identified industry-challenges
- Can lead to breakthrough results with significant energy saving in DCs

Potential for Impact

- Economic benefits to Singapore in terms of capabilities development, planned commitment in carrying out translational work, as well as commercialisation outcomes
- Strong deployment potential in Singapore's context

Team Profile

- Relevant experience and track record of the research team

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ELIGIBILITY AND FUNDING SUPPORT

Local Institutes for Higher Learning (IHLs), public sector agencies, research institutes (RIs) and companies with operations in Singapore are eligible

Research must be conducted in Singapore

Proposals should not be funded or currently considered for funding by other agencies

Funding levels:

- IHLs, public sector agencies, RIs may be funded up to 100%
- Companies may be funded up to 70%

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APPLICATION DETAILS

- Interested applicants can submit their full proposals online via the IGMS system.
- Eligible proposals will be evaluated and selected for award by the Evaluation Panel
- For further details and proposal submission, go to URL:

https://bit.ly/2wI3f6p

Proposal Submission Deadline:
5 November 2018, 11.59pm

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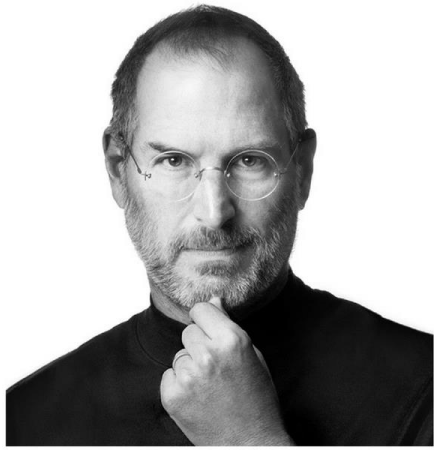
CALL FOR ACTION!

Come talk to us:

- You have a great idea that you will like to explore further with great minds!
- You will like to contribute or participate in such research work as partners for POC or commercialisation!
- Be notified of latest developments & innovations in this space.

STAY HUNGRY,
STAY FOOLISH

Steve Jobs



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ACTIONABLE ITEMS

Submission of proposals online via the IGMS system.

Connect with us for further discussion

WANG Shing Chai, WANG_Shing_Chai@imda.gov.sg

Dale FU ZiChang, FU_zichang@imda.gov.sg

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