



FiSAC

Fire Safety

Asia Conference & Exhibition
Singapore 2022

Rethink Redefine Redesign

A **BREAKTHROUGH** in fire safety,
sustainability and emergency response

16-18 November
2022

Singapore Expo Max Atria

www.fisac.com.sg



Joint Organisers



SCDF
The Life Saving Force
...for entire Singapore

Managed by





Commissioner's Message

COMR Eric Yap Commissioner Singapore Civil Defence Force

COVID-19's impact on the world has been unprecedented, affecting finance, commerce, healthcare, including the lives and livelihoods of people on a scale not seen in modern times. Besides its extensive impact, COVID-19 has underscored the need for us to be agile, flexible and adaptable in responding quickly to an evolving pandemic, as seen with the emergence of COVID-19 variants which sent renewed shockwaves across the world.

The global health crisis is indeed a timely reminder for all of us in the disaster management and fire safety fraternity to adapt and sustain our efforts to upkeep the high degree of standards necessary to prevent the loss of lives and damage to property.

Recently, there have been a few serious high-rise building fires overseas where tragically, lives were lost as occupants found themselves trapped and unable to evacuate safely. These incidents serve to reinforce the importance of how effective and robust fire safety systems can potentially save lives during emergencies. Members of the fire safety industry and building planners play a key role in addressing these matters upstream during the building design and construction phases. Fire safety sets the critical cornerstones for building safety as it addresses fire risks, prevention of fires from escalating, and importantly, enable the evacuation of occupants during emergencies.

Technologies are always evolving and developing. Keeping pace with new developments and emerging technologies will help keep respective building codes updated and relevant. The Singapore Civil Defence Force (SCDF) actively reviews the Fire Code every five years by working closely with stakeholders in the building industry to identify latest trends in civil protection and fire safety. In addition, SCDF's adoption of the performance-based approach towards fire safety has allowed building designers and architects considerable flexibility in designing buildings creatively and innovatively using fire engineering principles, calculations and/or appropriate software modelling tools to achieve the intentions of the Fire Code.

The digital Fire Code introduction by SCDF was another initiative aimed at improving convenience to building industry professionals. Features such as in-depth illustration of Fire Code provisions, intuitive search and cross-referencing, etc. contribute positively to overall quality and productivity of the industry.

SCDF is also firmly committed to translate research into application by collaborating with the academia. For instance, SCDF works closely with the National University of Singapore and Nanyang Technological University to assess and validate emerging research, technology and innovation on fire safety engineering and building design and turn them, where relevant, into applicable industry practices. Such efforts, which are important for a pro-business environment, have led to SCDF being conferred the Pro-Enterprise Survey Recognition Award in 2021.

At the frontlines, SCDF is constantly looking out to leverage technological advancements to enhance our operational readiness. One of the highlights in our transformation journey is our very first Smart Fire Station-Punggol Fire Station. Apart from the digital systems and smart wearables which our emergency responders will use, this latest state-of-the-art fire station utilises an Integrated Building Management System (IBMS) that offers automated control of the building's sub-systems such as air-conditioning, mechanical ventilation fans and lighting, thereby optimising energy consumption. The fire station is also equipped with an automated control access that uses analytics such as facial recognition, motion sensing, and vehicular licence plate reading. This translates into greater precision in identification, quicker alerts during emergency activations and improved security for the premises. Being environmentally friendly is a necessary consideration for a sustainable future and, deservingly, Punggol Fire Station attained the Green Mark Gold Award in March 2020.

Another key highlight for SCDF's transformation journey is the development of the Emergency Responders' Fitness Conditioning & Enhancement Lab (ExCEL). Since end 2021, ExCEL is being progressively operationalised at the Civil Defence Academy (CDA). In my message for FISAC 2017, I had shared on how CDA will soon bring emergency response training to a new and unprecedented level. I am happy to announce that with ExCEL, the future is here today. We are now applying human performance analytics to optimise our SCDF responders' potential and yeak operational performance through an evidence-based approach. Through continual scientific research, testing and assessment, ExCEL will monitor, assess, and enhance different aspects of emergency responders' optimal performance and improve safety. On that note, I look forward to welcoming all participants namely, fire chiefs, disaster managers and practitioners, building and fire safety professionals, industry experts as well as members of the academia, to FISAC 2022 in Singapore which seeks New Breakthroughs in Fire Safety, Sustainability and Emergency Response, as the theme aspires.



Chairman's Message

Mr Markham Shaw
Chairman
National Fire and Emergency Preparedness Council

After a 5-year hiatus, the Fire Safety Asia Conference & Exhibition (FiSAC) 2022 will return this year in November against the backdrop of the COVID-19 pandemic. In partnership with the Singapore Civil Defence Force (SCDF), the National Fire and Emergency Preparedness Council (NFEC) is pleased to organise this latest edition of FiSAC, widely recognised as one of the significant fire safety events in Asia.

The multi-faceted event will include a conference to enable the sharing of best practices and lessons learnt in disaster management and on the latest fire safety developments as well as an exhibition to showcase the latest fire safety technologies. Another highlight of FiSAC 2022 is its signature awards ceremony to celebrate achievements within the fire safety industry of Singapore.

As the world learns and adjusts to living with the COVID-19 virus, the fire safety industry similarly must not rest on its laurels and needs to constantly keep abreast with the new challenges and developments in fire safety such as rapid urbanisation, proliferation of sustainable construction materials and use of solar panel systems. This is the reason why we have chosen the theme for FiSAC 2022 as 'Rethink, Redefine, Redesign:

A **BREAKTHROUGH** in fire safety, sustainability and emergency response'. We must continue to leverage technologies and embrace innovations, so as to achieve greater successes and overcome challenges within the fire safety industry.

As some of you may know, the NFEC has come a long way since the 1980s. In mid-2021, we rebranded the council by succinctly renaming it as the National Fire and Emergency Preparedness Council and unveiling its brand new logo. We also launched our first social media platform - the NFEC Facebook page in October last year.

Like many of our community and industry partners, the NFEC will continue to work closely with the SCDF to promote fire safety awareness and emergency preparedness in Singapore. On behalf of the NFEC, I would like to thank you for working alongside us in this important mission to keep Singapore safe and secure. At the same time, I take this opportunity to cordially invite all fire safety professionals including members of the academia, to lend your support and participate in this event. I look forward to welcoming all local and overseas participants who will be joining us at FiSAC 2022.

See you soon!

SKR rosenbauer



**FIRE INDUSTRY SUCCESS.
LEADING THE GLOBAL MARKET.**

 8 Tuas Drive 2, 638 643 Singapore

 sales.sg@rosenbauer.com

 +65 6862 3155



Fire Safety Asia Conference & Exhibition Singapore 2022

The highly anticipated 4th edition of Asia's most prominent fire safety event is back. Jointly organised by the Singapore Civil Defence Force and the National Fire and Emergency Preparedness Council, the Fire Safety Asia Conference 2022 will be held from 16 to 18 November 2022 at the Singapore Expo.

With a progressive conference theme of "Rethink, Redefine, Redesign: A **BREAKTHROUGH** in fire safety, sustainability and emergency response", the FISAC 2022 will cover a 2-day conference and a half-day workshop on relevant case studies, methodologies, technologies and implementation strategies as well as an exhibition to showcase state-of-the-art equipment and technologies.

The conference theme captures and embeds the spirit of leveraging technology, embracing innovation and the growing emphasis in environmental sustainability. The blue, together with the greenish hue, was specially chosen to underscore the importance of sustainability as we pursue new breakthroughs in fire safety and emergency response.

Conference Programme :

Day 1 : Wednesday, 16 November 2022

TIME	EVENT	TOPIC
08.30	Registration Commences	
09.15	All guests to be seated	
09.40	Opening Address	
09.50	Speech by GOH	
10.00	Keynote Address 1	Transforming Organisation - Mr Emanuela Psaila (Permanent Secretary - Ministry for Home Affairs, Malta)
10.30	Tea Break and Tour Exhibition	
11.00	Sharing on Paper 1	Application of Fire Engineering Approach for Alternative Energy & Sustainable Buildings - Mr Jimmy Jonsson
11.30	Sharing on Paper 2	Fire and Safety Consideration for Timber Construction in a Densely Populated City – Mr Keith L. Wen
12.00	Sharing on Paper 3	Fire Safety Designs for External Façade and Claddings - Mr Peter Stephenson
12.30	Panel Discussion	
13.00	Lunch Reception	
14.00	Keynote Address 2	Challenges and Changes: FRDM Perspectives - YAS Dato' Sri Ts Mohammad Hamdan Bin Hj . Wahid
14.30	Sharing on Paper 4	The Importance of Standardised Testing - Mr Sean DeCrane
15.00	Panel Discussion	
19.00	Gala Dinner *	

(Accurate as of 14 November 2022)

*** Gala Dinner**
at Shangri-La Hotel, Tower Ballroom (Lobby Level)

Day 2 : Thursday, 17 November 2022

TIME	EVENT	TOPIC
09.30	Keynote Address 3 for FiSAC	Fire Safety for Photovoltaic (PV) installations - Prof. Grunde Jomaas
10.00	Sharing on Paper 5	Fire Safety of Facades – Dr Susan Lamont
10.30	Tea Break	
11.00	Sharing on Paper 6	Evolution of Emergency Response with case study on Notre-Dame de Paris Fire – Major Patrick Parayre (Paris Fire Brigade)
11.30	Sharing on Paper 7	A Comparative Study on Performance between Sprinklers and Water Mist for Cellulosic Fire – A Singapore Case Study – Mr Victor Ho
12.00	Panel Discussion	
12.30	Lunch Reception	
13.30	Sharing on Paper 8	Ops-Tech Capabilities for Emergency Response - DC Ling Young Ern
14.00	Sharing on Paper 9	Tunnel Fire Safety - Dr Ricky Carvel
14.30	Sharing on Paper 10	Fire Protection Solutions for Energy Storage Systems (ESS) - Mr Jiang Fenghui
15.00	Tea Break	
15.30	Sharing on Paper 11	Sustainable Fire Safety Design using Building Information Modelling (BIM) – Mr Jim Tan Yew Yaw
16.00	Panel Discussion	
16.30	Closing Remarks	
Speakers to head back to hotel (free and easy)		
(Accurate as of 14 November 2022)		

Workshop Programme

Friday, 18 November 2022
09.00-14.00

Organised by IFE Singapore, FSMAS, and A-CERTS, three Half-day Workshops will be conducted concurrently covering different aspects of fire safety.

PROFESSIONAL ACCREDITATION

CONFERENCE

WORKSHOP

CPE Hours by SCDF (For FSEs)	18	5
CPD Points by SCDF (For FSMs)	10	4
CPD Points by BOA/SIA (For Architects)	4	2
SDU Points by MOM/SISO (For WSHOs)	10	3
PDU Points by PEB (For PEs)	9	3
PDU Points by IES (For CEngs)	9	3
CPD Points by SIDAC (For Interior Designers)	6	2

Keynote Speakers



Mr Emanuel Psaila

Permanent Secretary of Home Affairs, Security,
Reforms & Equality (Malta)

Transforming Organisation

Emanuel Psaila is the former director-general of the Department of Civil Protection in Malta, which he had served since 1999. He has vast experience in emergency response and rescue. During his career, he has also served as President of the Civil Protection Association for 14 years and as a member of the Academy for Disciplined Forces and member of the National Book Council.



Professor Grunde Jomaas

ERA Chair and Head of Dept for Fire-Safe

**Sustainable Built Environments Fire Safety for
Photovoltaic (PV) Installations**

Professor Grunde Jomaas is the FRISSBE ERA Chair holder and the Head of the Department for Research for Fire-Safe Sustainable Environment at the Slovenian National Building and Civil Engineering Institute (ZAG). He is also a professor at the University of Primorska in the Faculty of Mathematics, Natural Sciences and Information Technologies (FAMNIT). Professor Jomaas has a BSc (Summa Cum Laude) in Fire Protection Engineering from the University of Maryland (2001) and a MSc (2005) and PhD (2008) in Mechanical and Aerospace Engineering from Princeton University. He was an assistant (2009-2011) and associate professor (2011-2016) in the Department of Civil Engineering at the Technical University of Denmark (DTU) and BRE Chair and professor of fire safety engineering at the University of Edinburgh (2016-2021). Professor Jomaas has a broad experience in experimental combustion and fire safety research, including high pressure premixed flame research and flammability in microgravity, and he has published more than 60 peer-reviewed articles.



YAS Dato Sri Ts Mohammad Hamdan Bin Hj. Wahid

Director General

Fire and Rescue Dept of Malaysia

Challenges and Changes: FRDM Perspectives

Dato Sri Ts Mohammad Hamdan Bin Hj. Wahid was appointed as Director General of Fire and Rescue Department of Malaysia in 2018. Graduated with a Master of Science in Emergency Response Planning and Management from Universiti Putra Malaysia and Degree in Mathematics from Universiti Malaya. He has been serving for 30 years in Fire and Rescue Department Malaysia, holding various executive and strategic posts in states and divisions and has a vast experience in training, fire safety, firefighting and SAR operational commandship and disaster management. He is also the President of Institution of Fire Engineers (Malaysia) and past President of Institution of Master of Disaster 2018 and Emergency Management of Malaysia (IMDEMM) and has contributed significantly in development code of practices and fire safety regulations at national and regional level.

Session Speakers

DC Ling Young Ern

Deputy Comr, Future Tech and Public Safety, SCDF
Topic: Operation Response - Ops-Tech Capabilities for Emergency Response

Major Patrick Parayre

Paris Fire Brigade (BSPP)
Topic: Operation Response - Evolution of Emergency Response with Case Study on Notre-Dame de Paris Fire

Dr. Ricky Carvel

University of Edinburgh
Topic: Infrastructural Fire Safety - Tunnel Fire Safety

Mr Sean DeCrane

UL
Topic: Sustainability & Environment Fire Safety - The Importance of Standardised Testing

Mr Jiang Fenghui

FM Global
Topic: Sustainability & Environment Fire Safety - Fire Protection Solutions for Energy Storage Systems (ESS)

Mr Jimmy Jönsson

President-Elect, Society of Fire Protection Engineers (SFPE)
Topic: Sustainability & Environment Fire Safety - Application of Fire Engineering Approach for Alternative Energy & Sustainable Buildings

Mr Victor Ho

Principal for HiLT Pte Ltd
Topic: Innovative Fire Safety Design - A Comparative Study on Performance between Sprinklers and Water Mist for Cellulosic Fire - A Singapore Case Study

Mr Peter Stephenson

Hydrock
Topic: Innovative Fire Safety Design - Fire Safety Designs for External Façade and Claddings

Mr Jim Tan Yew Yaw

Xcube Solutions
Topic: Innovative Fire Safety Design - Sustainable Fire Safety Design using Building Information Modelling (BIM)

Mr Keith L. Wen

City of New York Department of Buildings, Technical Affairs
Topic: Innovative Fire Safety Design - Fire and Safety Consideration for Timber Construction in a Densely Populated City

Ms Susan Lamont

Director ARUP (UAE)
Topic: Infrastructural Fire Safety - Fire Safety of Facades

Workshop Trainers

IFE Workshop Trainers

Topic : Fire Safety Design Supporting Battery Energy Storage System (BESS) and Global Clean Energy Priorities



Mr Sean De Crane

- Retired 25+ year veteran of the Cleveland Division of Fire
- Served in various roles including the Director of Training and Chief of Operations.
- Manager of Industry Relations for the Underwriters Laboratories Building Life Safety, Security and Technologies Division.
- Serving as the Chair of the Fire Test Work Group for the ICC Tall Wood Building Ad Hoc Committee.
- Involved in the research at Underwriters Laboratories and the National Institute of Standards and Technology.
- Represented the International Association of Fire Fighters in the International Code Council process and has served on the 2009, 2012, 2105 and 2018 Fire Code Developing Committee and as Chair for 2015 and 2018. Served on the NFPA 1 Technical Advisory Panel, NFPA Research Foundation on Tall Wood Buildings.
- Served on the UL Fire Council and is a member of the UL Fire Fighter Safety Research Institute's Advisory Board.



Dr Daniel Liang

- Started career in power engineering since 2006 after receiving his PhD in NTU.
- Developed domain expertise in power system study, renewable energy, and energy storage system (ESS), throughout career in SG and UK.
- Worked in consultancy line since 2013 and used to be with DNV as ESS service lead in APAC.
- After joining current organization (UL Standards & Engagement) , he continues serving the clients in this region.

A-CERTS Workshop Trainer

Topic : Rebuilding a Holistic Business Continuity Management and Emergency Response Approach Post Covid-19



Dr Goh Moh Heng

- **President of BCM Institute**
- **Managing Director of GMH Continuity Architects**
- Armed with his primary areas of expertise, including Business Continuity Management, Disaster Recovery Planning (Crisis Management, and Communications in the Asia Pacific and Middle East Regions
- Expert panel member of the Asia Pacific Economic Cooperation (APEC) Network on Improving SME Disaster Resilience.
- Held senior positions with several large organizations e.g. Government of Singapore Investment Corporation, Standard Chartered Bank and PriceWaterhouseCoopers or PwC.
- Published more than 25 BCM books.

FSMAS Workshop Trainer

Topic : What FSMs need to Know About Fire Suppression Systems in Buildings as well as about Taking Over Buildings (New/Existing)



Mr Lim Shien Ming

- **Served in FSMAS committee since 2011**
- **Chairman for Education Sub Committee (Current)**
- 20 over years of experience working in the Fire Safety, Safety, Facilities & Project Industries.
- Portfolios include Integrated Resorts, Prime Grade A Commercial offices, Hospitals, Nursing Homes, Aviation , Industrial / Tourism sectors.
- Senior Fire Safety Manager, qualified Work Place Safety Health Officer, certified in ACTA, certified CERT Instructor and Adjunct lecturer for SCDF Fire Safety Manager course.



hexcel solutions pte ltd



We have been building and maintaining computerised fire simulators for over a decade.

We are the market leader in South East Asia with numerous completed projects and a presence in over 30 countries, with more coming along the way.

Specifically, we are well equipped and fully competent in the following areas:

- We build emergency training simulators.
- We provide consultancy and project management expertise from design conceptualisation to the construction and commissioning of training simulators and schools.



info@hexcelsolutions.com



+65 6562 6211



8 Boon Lay Way, #10-10 Tradehub 21, Singapore 609964

Fire Safety Design Awards 2022



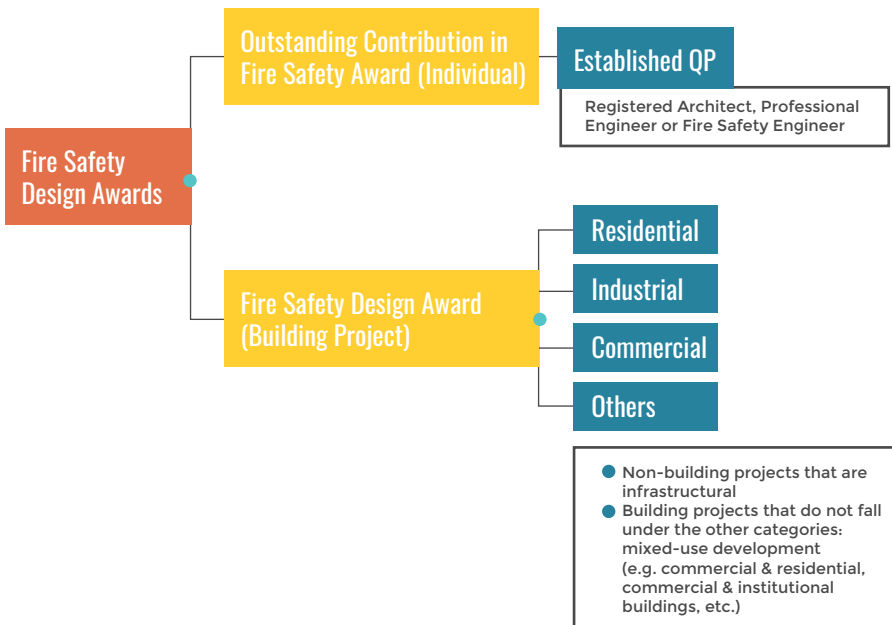
FIRE SAFETY
DESIGN AWARDS

The Awards accord recognition to the individuals, organisations and the project teams for ingenious design processes and solutions in overcoming project challenges to achieve high standard in fire safety design of building projects in Singapore.

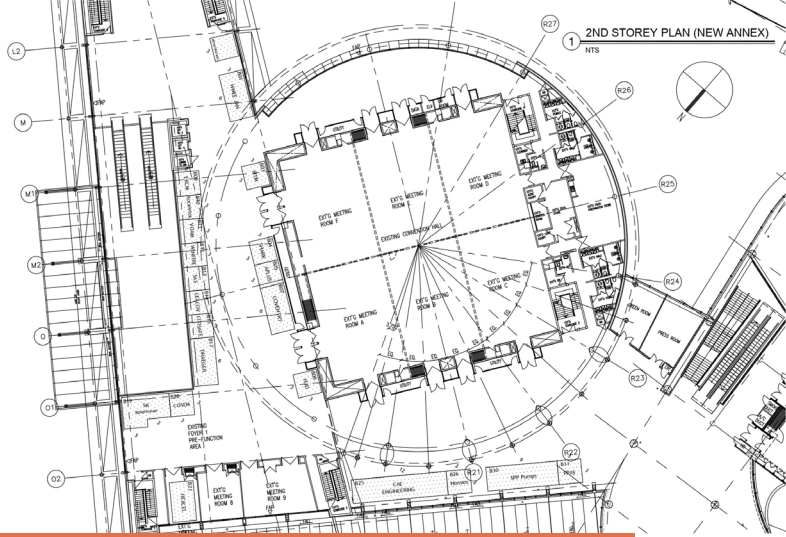
The Awards aim to:

- Inculcate a strong fire safety culture among building professionals in developing our built environment;
- Give recognition to professionals, developers and project teams for fire safety engineering achievements; and
- Honour like-minded individuals for their consistent contribution towards achieving high standards in fire safety and compliance to the regulatory system.

Category of Awards



Exhibition Floorplan



Booth	Exhibitor	Website
B-01	Hwee Jan (S) Pte Ltd	www.hweejan.com.sg/default.aspx
B-03	HTM Medico Pte Ltd	www.htmmedico.com.sg/
B-04	SHARK ASIA Pte Ltd	
B-05	Aplus Safety Pte Ltd	www.aplussafety.com.sg/
B-07	Coventry Enterprises (Singapore) Pte Ltd	www.xvrsim.com/en-cn/
B-08	H3D, Inc	h3dgamma.com/home.php
B-09	ERCM Consultancy Pte Ltd	ercmconsultancy.com/
B-10	Rockwool Building Materials (Singapore) Pte Ltd	www.rockwool.com/asia/
B-11	Voam Pte Ltd	
B-12	Winfire (SG) Pte Ltd	
B-13	SAS Securitas Singapore Pte Ltd	sasgroup-asia.com/
B-14	Leacov Singapore Pte Ltd	leacov.com/
B-15	CitiSafe Pte Ltd	citisafe.com.sg/
B-17	Draeger Singapore Pte Ltd	www.draeger.com/en_sea/Home
B-19	S.K. Rosenbauer Pte Ltd	www.rosenbauer.com/en/ru/rosenbauer-group/company/locations/production-locations/plant-singapore
B-20	COSEM Safety & Security Services Pte Ltd	www.cosem.org.sg/
B-21	Hexcel Solutions Pte Ltd	www.hexcelsolutions.com/
B-25	CAE Engineering Pte Ltd	www.caegroup.com.sg/
B-26	Honsen Pte Ltd	honsengroup.com/
B-30	SPP Pumps (Singapore) Pte Ltd	www.sppumps.com/contact-us/singapore/
B-31	Fire Protection Association Singapore (FPAS)	www.fpasg.org.sg/

FM APPROVED / UL LISTED PUMPSETS PACKAGE IN SINGAPORE

Horizontal Split Case - End Suction (Type Centrifugal Fire Pumpsets)



Certificate of Compliance

This certificate is issued for the following:

Centrifugal Fire Pumps
(Axial Split-Case Type)
(Horizontal, End Suction Type)
(Modification)

Packaged at NM FIRE (S) PTE. LTD., Singapore

Manufactured By:

CNP Fire Fighting System Company Ltd.
No 42, 76 Chang Road
Queo Tang Street
Changsha, Hunan 410100, China

Packaged By:

NM FIRE (S) PTE LTD
No. 2 Woodlands Sector 1 #01-04
Singapore 738068, Singapore

FM Approvals Class: 1311 (January 2018)
FM Approvals Class: 1319 (January 2018)

Approval Identification: FRA54828

Approval Granted: December 17, 2020

To verify the product continues to be Approved please refer to www.approvalguide.com.

Said Approval is subject to satisfactory field performance, continuing Surveillance Audits, and strict conformity to the construction as shown in the Approval Guide, an online resource of FM Approvals.

David B. Fuller
VP, Manager - Fire Protection
FM Approvals
1131 Boston Providence Turnpike
Norwood, MA 02062



NM FIRE®

Protect life, love and history

NM FIRE (S) PTE LTD in conjunction with NM FIRE Pumps have obtained FM Approvals to package a wide range of approved skid packaged Fire Pump Sets within our own shores

This approval aims to benefit customers on:

1. Improved Lead Time
2. Competitive Pricing
3. Local Control of Quality & Production



CAE ENGINEERING PTE LTD

www.caegroup.com.sg

No 2 Woodlands Sector 1 #01-04

Woodlands Spectrum 1
Singapore 738068



sales2@caegroup.com.sg



+65 6844 7518

Strategic Partners



Supporting Organisations



Platinum Sponsor



Gold Sponsor



Silver Sponsor



Lanyard Sponsor



Badge Sponsor



