

The Rise of the Reconfigurable Robots: SUTD Initiatives

Mohan Rajesh Elara

Singapore University of Technology and Design

Email: rajeshelara@sutd.edu.sg

This research is catalyzed by the National Robotics Programme and administered by the Agency for Science, Technology and Research, August 2017 - Present.

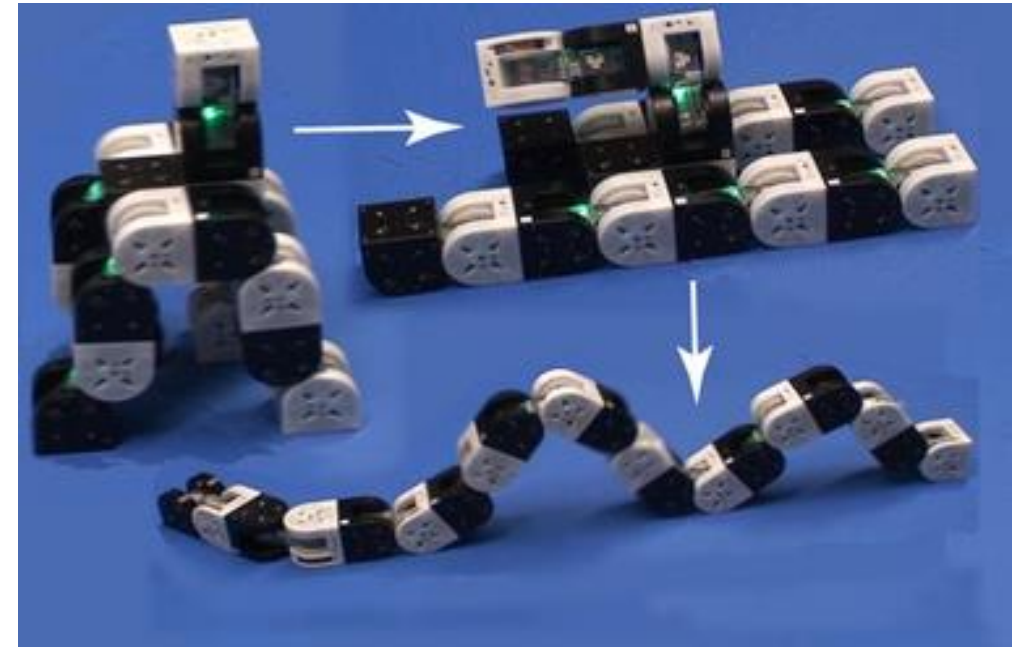
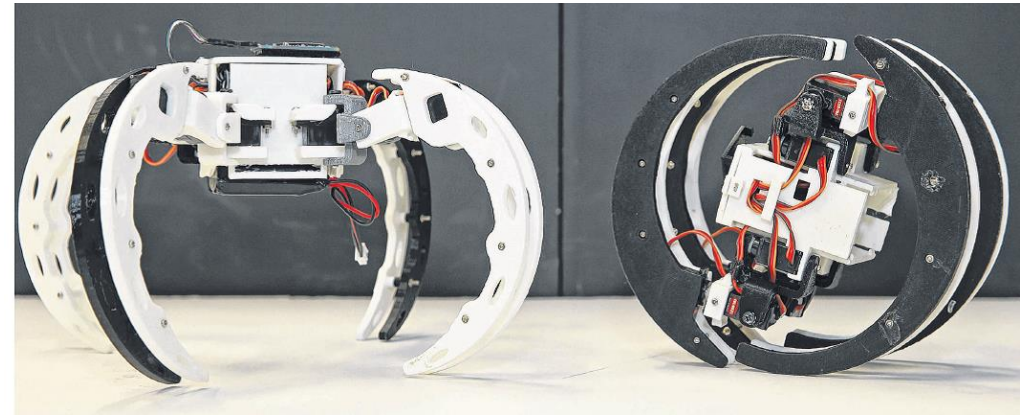


SINGAPORE UNIVERSITY OF
TECHNOLOGY AND DESIGN

A BETTER WORLD BY DESIGN

Reconfigurable Robotics

Reconfigurable robots possess the ability to autonomously change their shape and adapt optimally to the specific task or environment.



hTetro : Reconfigurable Floor Cleaning Robot

This research is catalysed by the National Robotics Programme under its Robotics Enabling Capabilities and Technologies (RECT) and Robot Domain Specific (RDS) initiatives and administered by the Agency for Science, Technology and Research.



sTetro : Reconfigurable Staircase Cleaning Robot

This research is catalysed by the National Robotics Programme under its Robotics Enabling Capabilities and Technologies (RECT) and Robot Domain Specific (RDS) initiatives and administered by the Agency for Science, Technology and Research.



Vertical Cleaning and Maintenance robot

This research is catalysed by the National Robotics Programme under its Robotics Enabling Capabilities and Technologies (RECT) and Robot Domain Specific (RDS) initiatives and administered by the Agency for Science, Technology and Research.



Panthera : Reconfigurable robot for Pavement Cleaning

This research is catalysed by the National Robotics Programme under its Robotics Enabling Capabilities and Technologies (RECT) and Robot Domain Specific (RDS) initiatives and administered by the Agency for Science, Technology and Research.



Wasp : Nested Reconfigurable Robot

This research is catalysed by the National Robotics Programme under its Robotics Enabling Capabilities and Technologies (RECT) and Robot Domain Specific (RDS) initiatives and administered by the Agency for Science, Technology and Research.

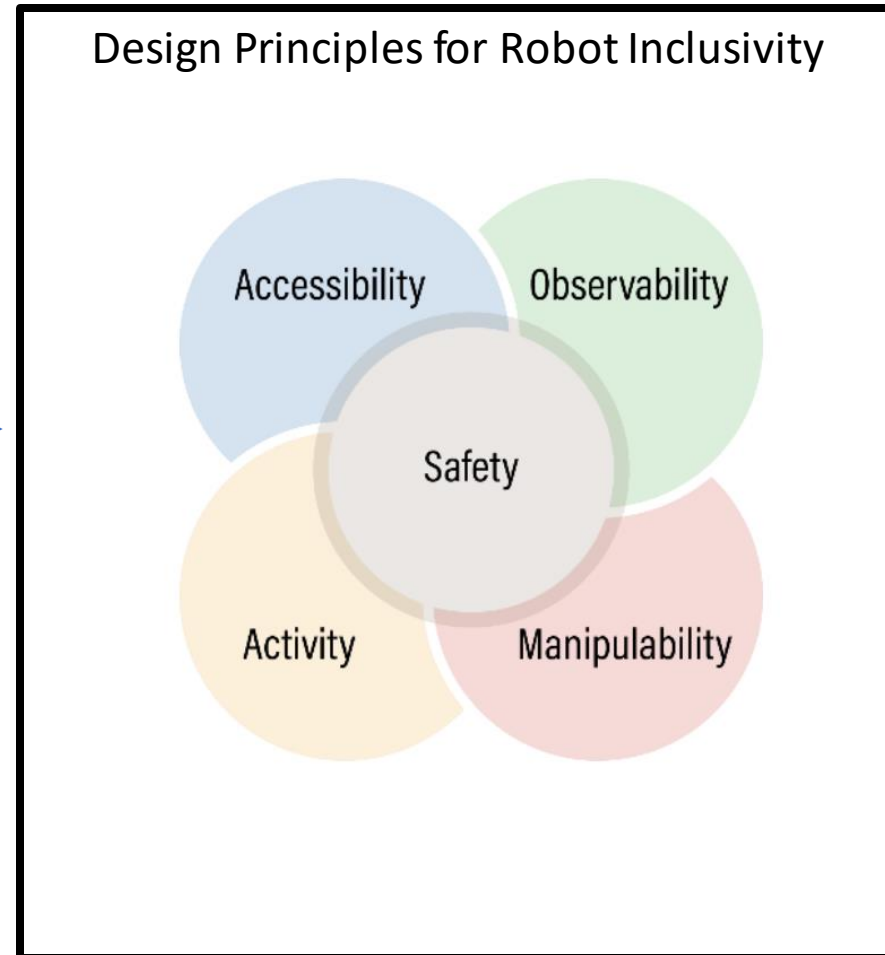
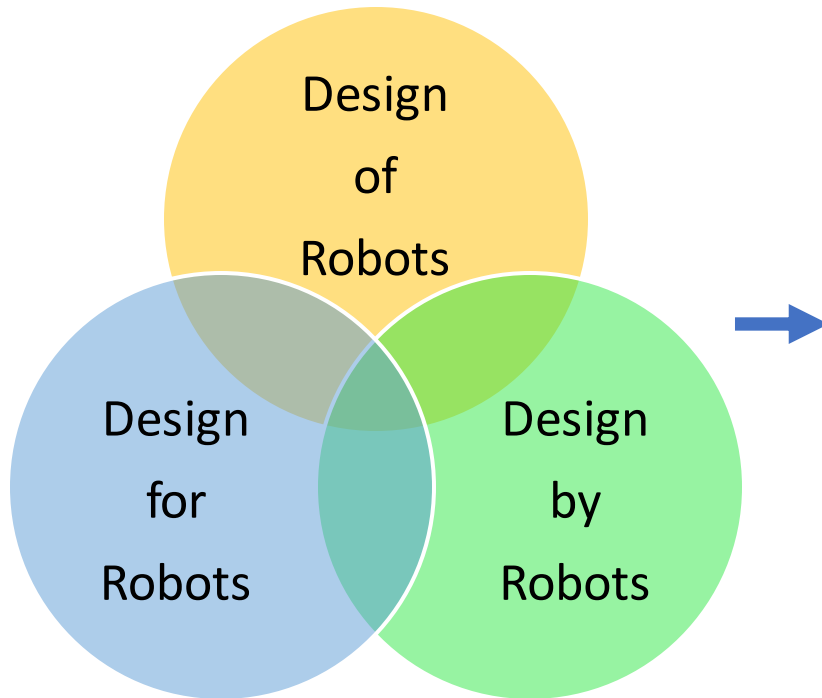


Scorpio: Bio-inspired Reconfigurable Crawling, rolling, wall climbing robot



SINGAPORE UNIVERSITY OF
TECHNOLOGY AND DESIGN

Robot Ergonomics Initiative



**DESIGN FOR
MAINTAINABILITY
GUIDE:
NON-RESIDENTIAL**

VERSION 2.0



Pilot Partners

EtonHouse®
International School • Pre-School

C&W
SERVICES

maple*tree*

ADVENTURE
COVE
WATERPARK™

NUS
National University
of Singapore

Kim San Leng

五洋建設
PENTACON CONSTRUCTION

EM SERVICES

APC
ABSOLVE PEST CONTROL PTE LTD

R
文化

ITE

SWISS CLUB
SINGAPORE

CERTIS

VERMINATOR
no escape

BRINGING THE FUTURE CLOSER
TAMPINES
TOWN COUNCIL



THE
SINGAPORE ISLAND
COUNTRY CLUB



Changi
General Hospital
SingHealth

Centre for
Healthcare Assistive
& Robotics Technology



National
Environment
Agency
Safeguard • Nurture • Cherish

ROHDE & SCHWARZ



stuff'd
mexican. turkish. delicious.

colivoo

Sengkang
General Hospital
SingHealth



APB
SINGAPORE

Gardens
by the Bay



lendlease

agrofog®
Your Trusted Brand Since 1981

LS2
SERVICES
Pte Ltd
Cleaning Professional

ChangiCity
Point

RADIUS

ENGIE

SMRT
CORPORATION



REPUBLIC OF SINGAPORE
NAVY
BEYOND HORIZONS

PLANTWERKZ
Plants for Life

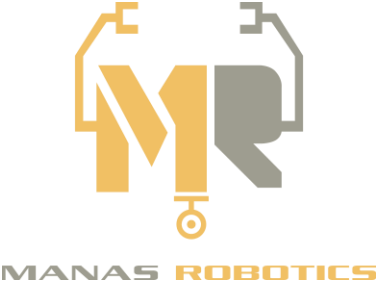
HOUSING &
DEVELOPMENT
BOARD

BRIGHTSUN
MARINE PTE LTD

BHAI BIRIYANI



Catalyst for Industry



Thank You!