Australian Government
Department of Defence
Science and Technology

Human Performance

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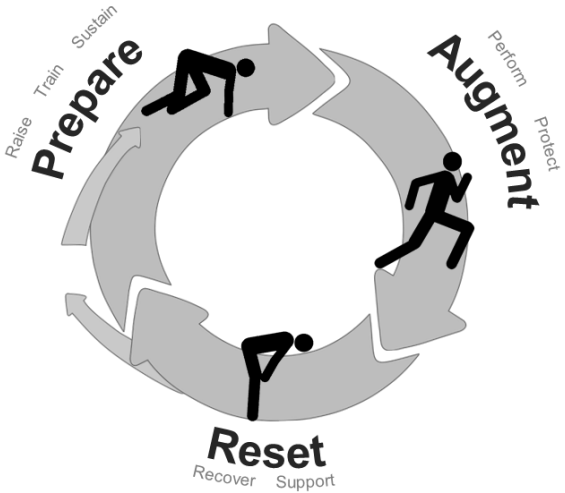
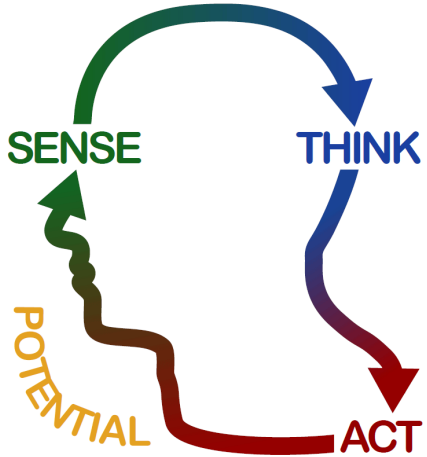
Human Performance Lead
– DST Group, Australia

Human Performance Research Priorities

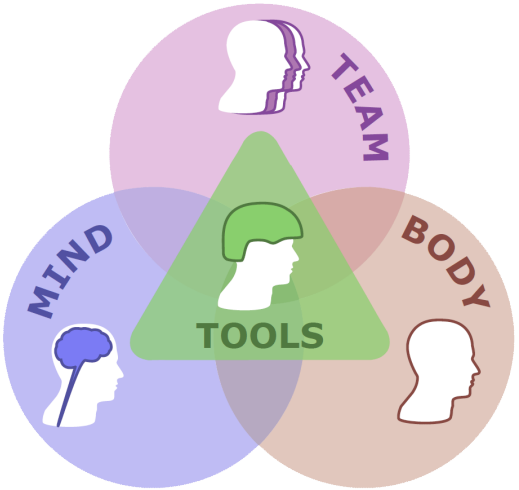
WHY?



WHAT?



WHO?



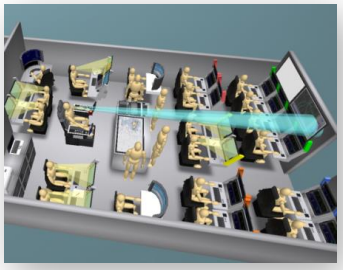
DST's Human Performance Program

Selection of current projects

Simulation for Collective Training

Soldier Combat System (SCS) Integration

Physical Employment Standards (PES)



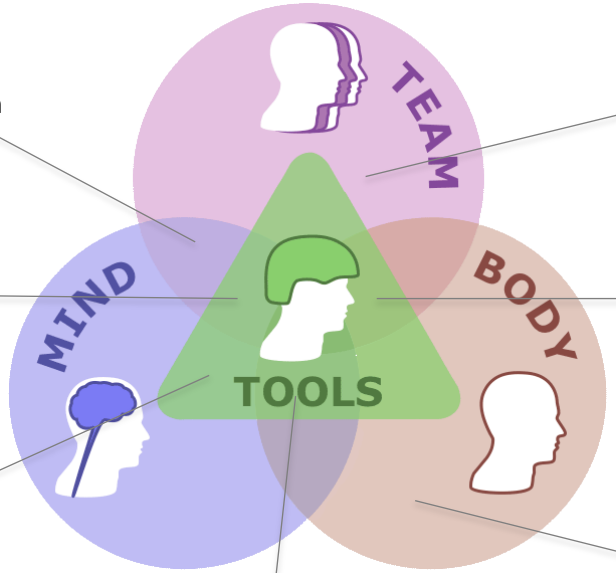
Submarine Control Room Design

Microwave Assisted Thermal Sterilisation (MATS)

Tactical Decision Making (Bright Fox)

HPRnet

Human Performance Research *network*



Selection, training and intervention strategies to improve warfighter situation awareness

A Dynamic and Temporal Perspective to Optimise Team Resilience

Trusted Human-Autonomy Teaming in Teleoperations

Soldier performance management: monitoring and modelling of load, adaptation and performance

Psychological methods for improving cognitive performance

Combat genes & bioinformatics for physical training

An integrated approach to enhancing cognition and decision-making under stress

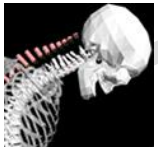
The Technical Cooperation Program (TTCP)

e.g. Future training

e.g. Exoskeletons

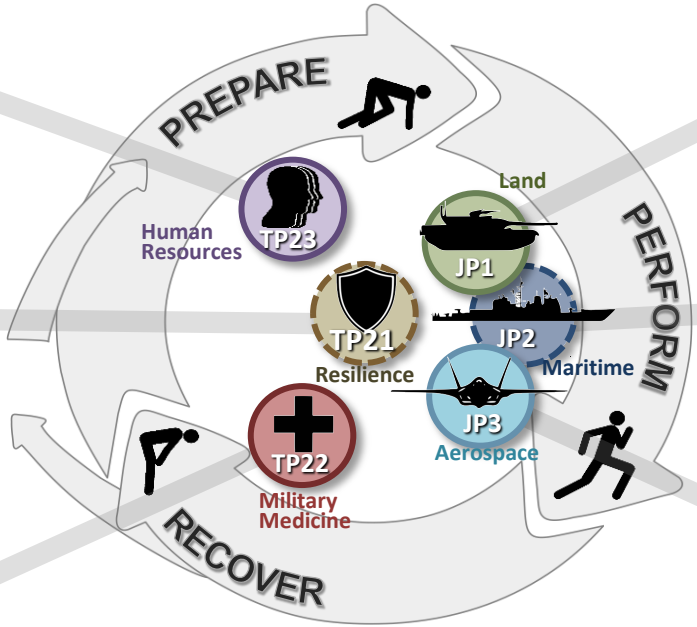
e.g. Family Resilience

e.g. Control Room Design



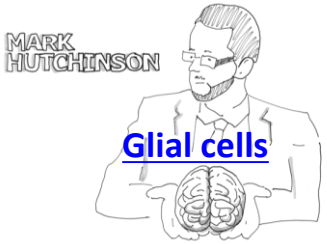
e.g. Neck & Spine

e.g. Controlling Multiple Assets

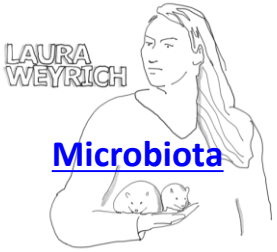


Human Biotechnologies

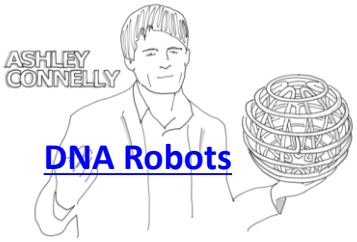
Emerging and Disruptive Technologies Symposium (EDTAS)



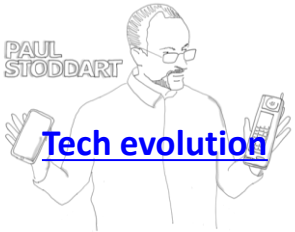
Glial cells



Microbiota

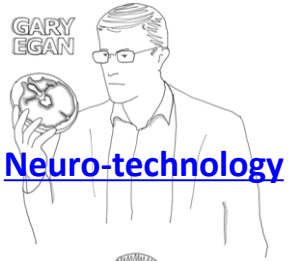


DNA Robots

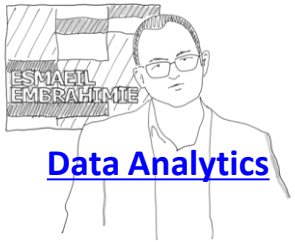


Tech evolution

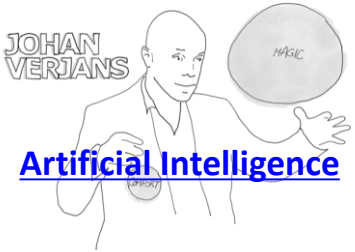
Combat Care



Neuro-technology

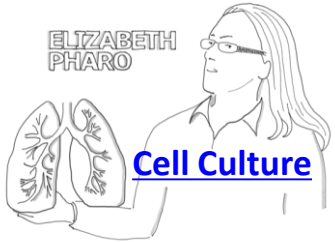


Data Analytics

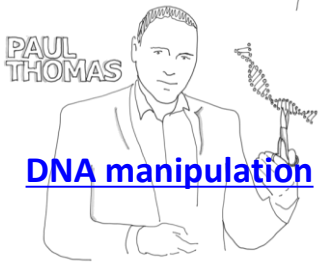


Artificial Intelligence

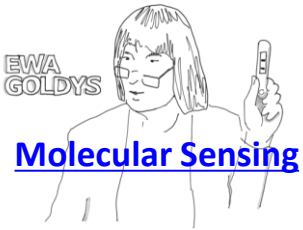
Mixed Reality



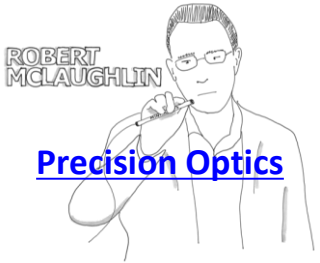
Cell Culture



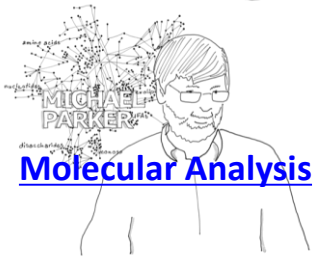
DNA manipulation



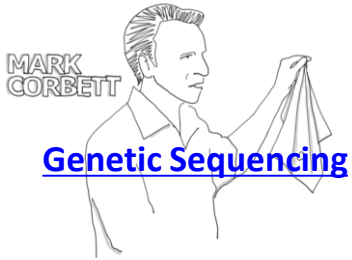
Molecular Sensing



Precision Optics

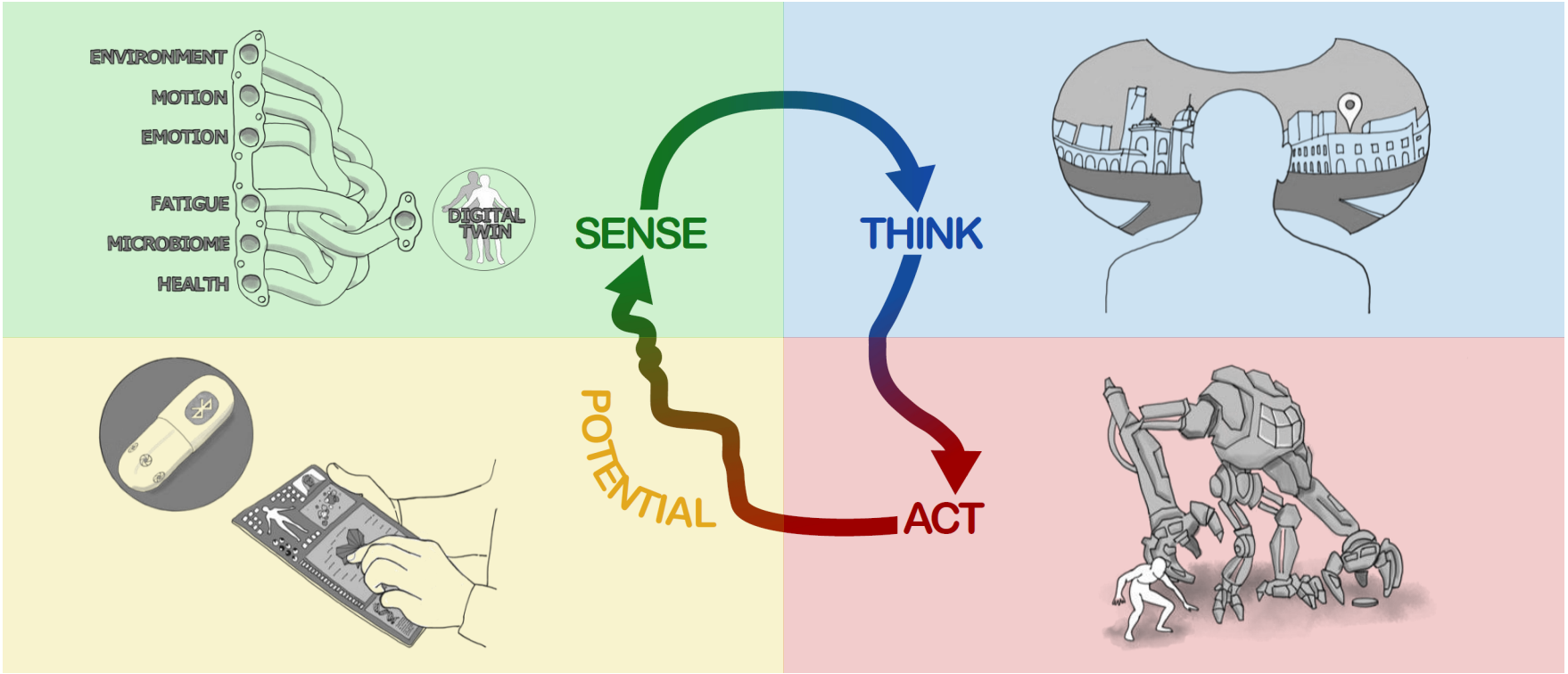


Molecular Analysis



Genetic Sequencing

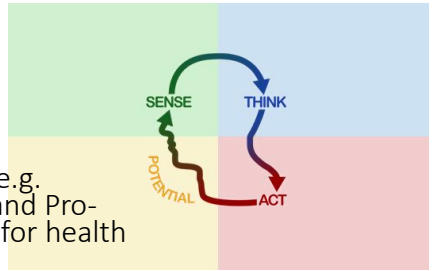
Augmentation Opportunities



Ethical Boundaries

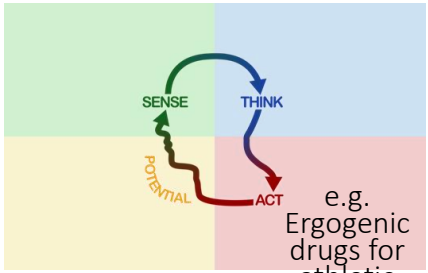
OK ⟷ NOT OK

Do it



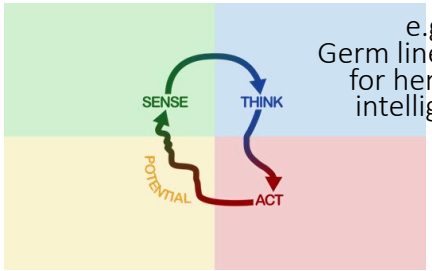
e.g.
Pre and Pro-biotics for health

Debate it



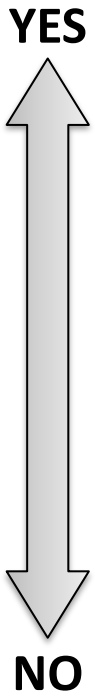
e.g.
Ergogenic drugs for athletic performance

Anticipate it



e.g.
Germ line editing for heritable intelligence

Should Defence Invest?



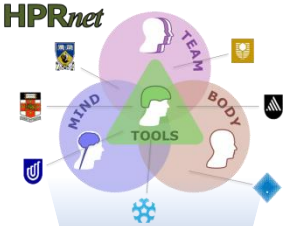
Feasible?
Could it be done?

Acceptable?
Should it be done?

Impactful?
Will it make a difference?

Covered?
Can it be left to others?

Next Generation Technologies Fund



Grand Challenges

Defence Cooperative Research Centres

University Research Networks

Strategic Research Program

Small Business Innovation Research for Defence

Defence Research Accelerator

Technology Foresighting

AGILITY ACROSS THE PORTFOLIO, INDEPENDENT OF SCALE

Questions?