Combined AAvPA and PACDEFF International Symposium 2018

HIMS Australia
Annual Seminar & AGM

27 November 2018
James Strong Auditorium
Qantas Campus
10 Bourke Rd Mascot NSW

Curtin University

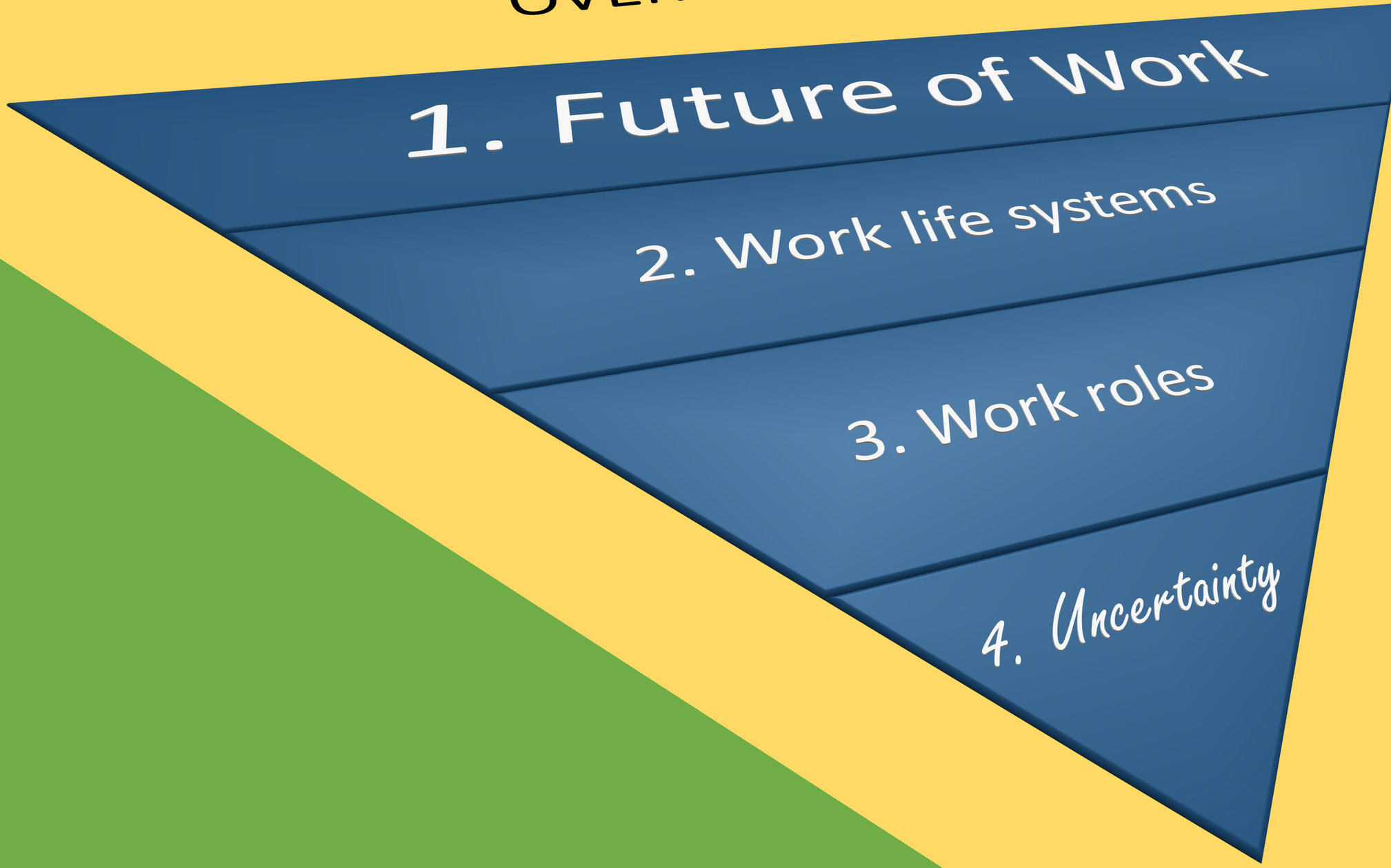
FUTURE OF WORK INSTITUTE

Work-life systems:
Rethinking endurance and uncertainty in future work

Professor Mark Griffin
Director, Future of Work Institute

November 2018

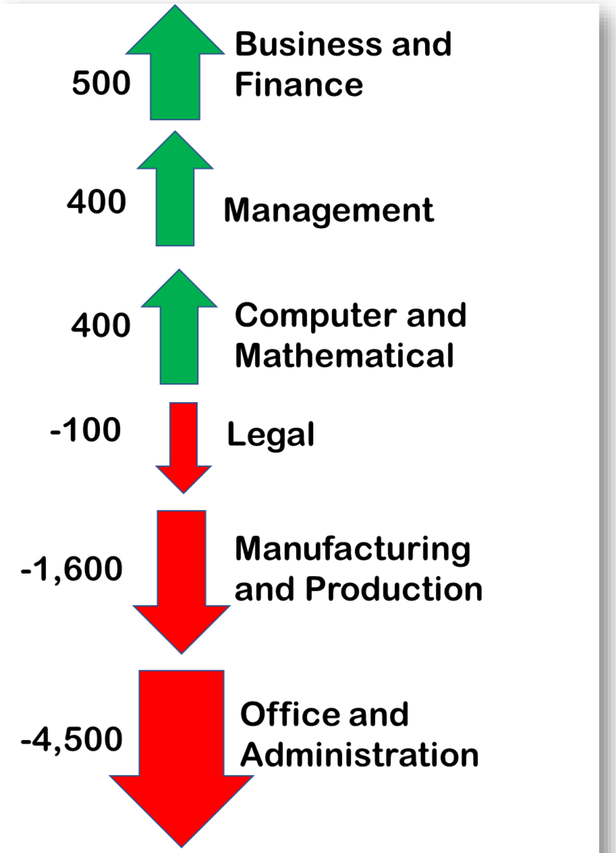
OVERVIEW


1. Future of Work
2. Work life systems
3. Work roles
4. Uncertainty


1. Future of Work
2. Work life systems
3. Work roles
4. Uncertainty

Work will be fundamentally different

- Technology profoundly affecting every individual
- Nature of work transforming quickly across multiple industries
- New forms of organisation emerging
- Economic and social consequences unpredictable
- Urgent need to understand human implications of change



Net employment outcomes (1,000s)
World Economic Forum

Collaborative Research Projects

Curtin University

FUTURE OF WORK INSTITUTE

Defence

Human-system integration for new maritime system

Health

Improving the efficiency of surgical teams

Energy

Leadership of offshore disaster teams

Volunteer

Volunteer motivation and performance in Australia

Maintenance

Automation in plant maintenance

Transport

Managing fleet safety and logistics

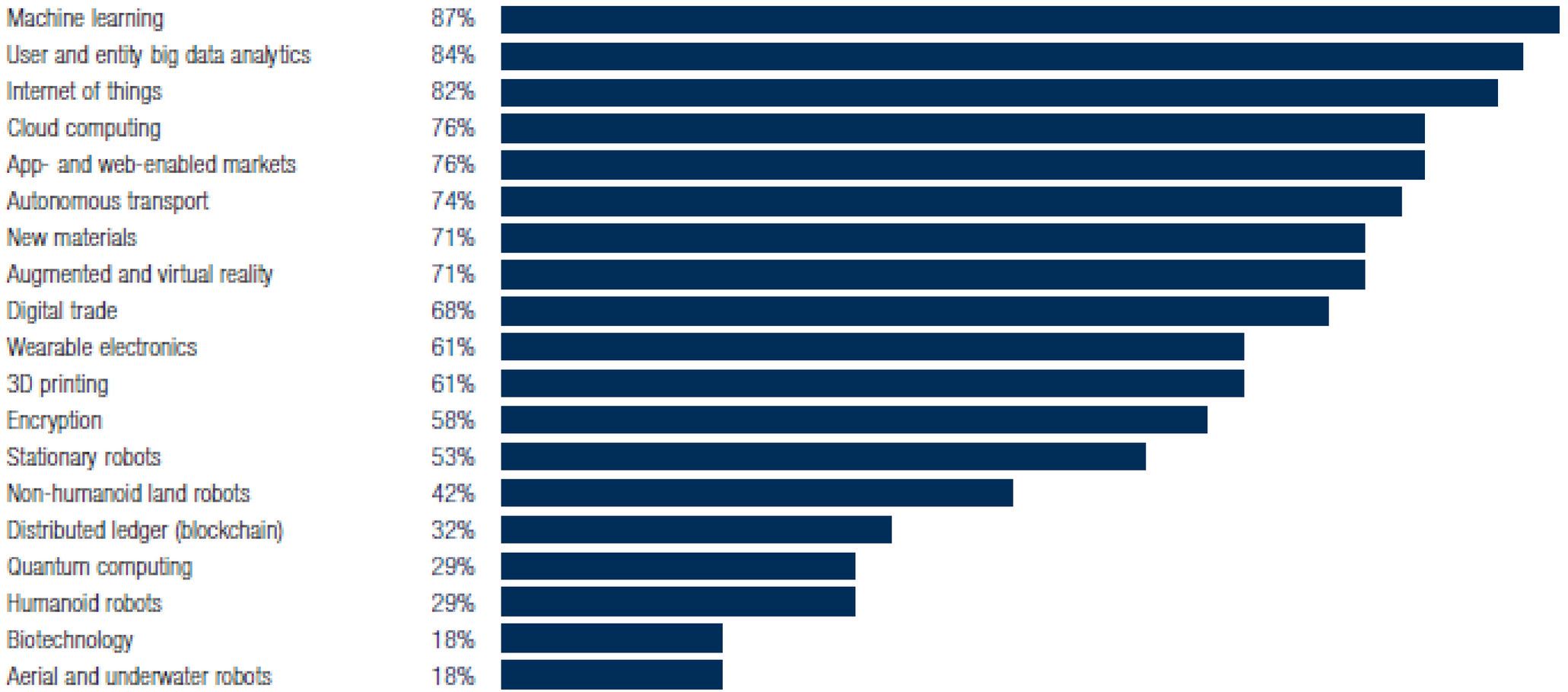
Mining

Health and well-being of FIFO workforce

Government

Safety training policy for state government

Future of Work



Jobs

EMERGING

8% in 2018 → 21% in 2022

Roles such as:

Data Analysts and Scientists
AI and Machine Learning Specialists
Process Automation Specialists
Software and Applications Developers and Analysts
Innovation Professionals
Sales and Marketing Professionals
Service and Solutions Designers
Product Managers
Industrial and Production Engineers
Supply Chain and Logistics Specialists

DECLINING

41% in 2018 → 26% in 2022

Roles such as:

Assembly and Factory Workers
Data Entry Clerks
Client Information and Customer Service Workers
Accountants and Auditors
Accounting, Bookkeeping and Payroll Clerks
Administrative and Executive Secretaries
Transportation Attendants and Conductors
Material-Recording and Stock-Keeping Clerks
General and Operations Managers
Business Services and Administration Managers

World Economic Forum, 2018

Activities

Trending, 2022	Declining, 2022
Analytical thinking and innovation	Manual dexterity, endurance and precision
Active learning and learning strategies	Memory, verbal, auditory and spatial abilities
Creativity, originality and initiative	Management of financial, material resources
Technology design and programming	Technology installation and maintenance
Critical thinking and analysis	Reading, writing, math and active listening
Complex problem-solving	Management of personnel
Leadership and social influence	Quality control and safety awareness
Emotional intelligence	Coordination and time management
Reasoning, problem-solving and ideation	Visual, auditory and speech abilities
Systems analysis and evaluation	Technology use, monitoring and control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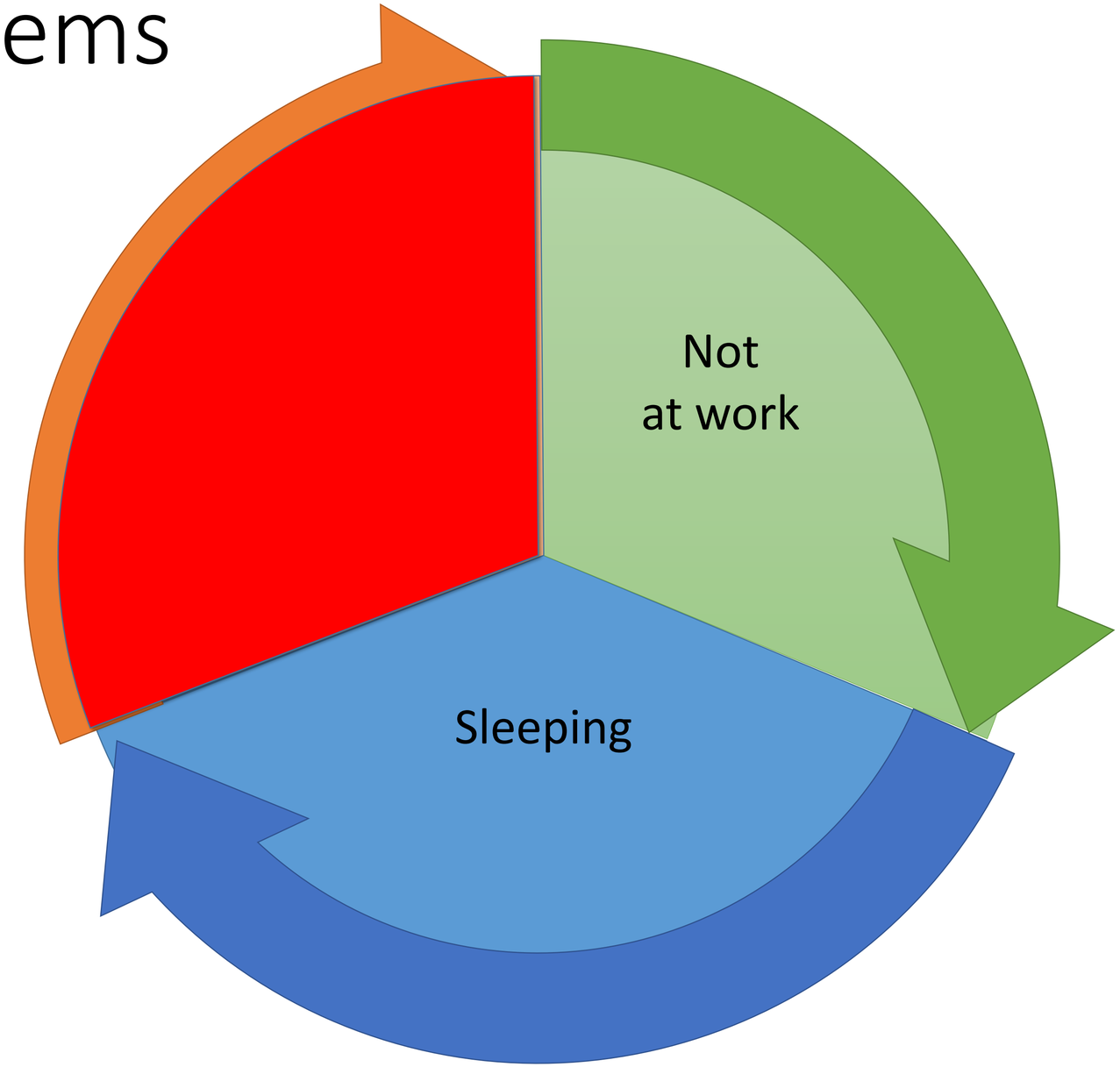
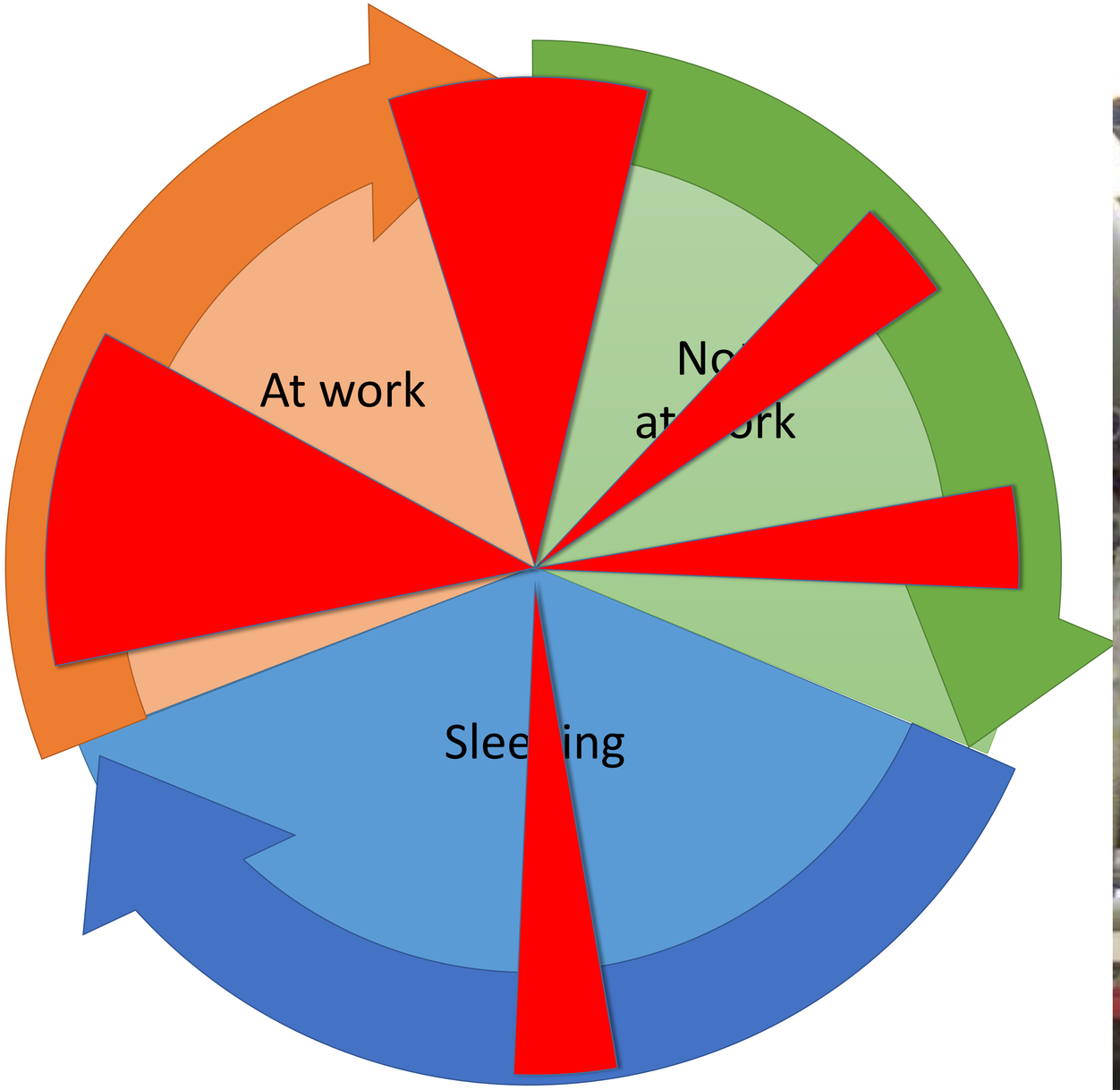
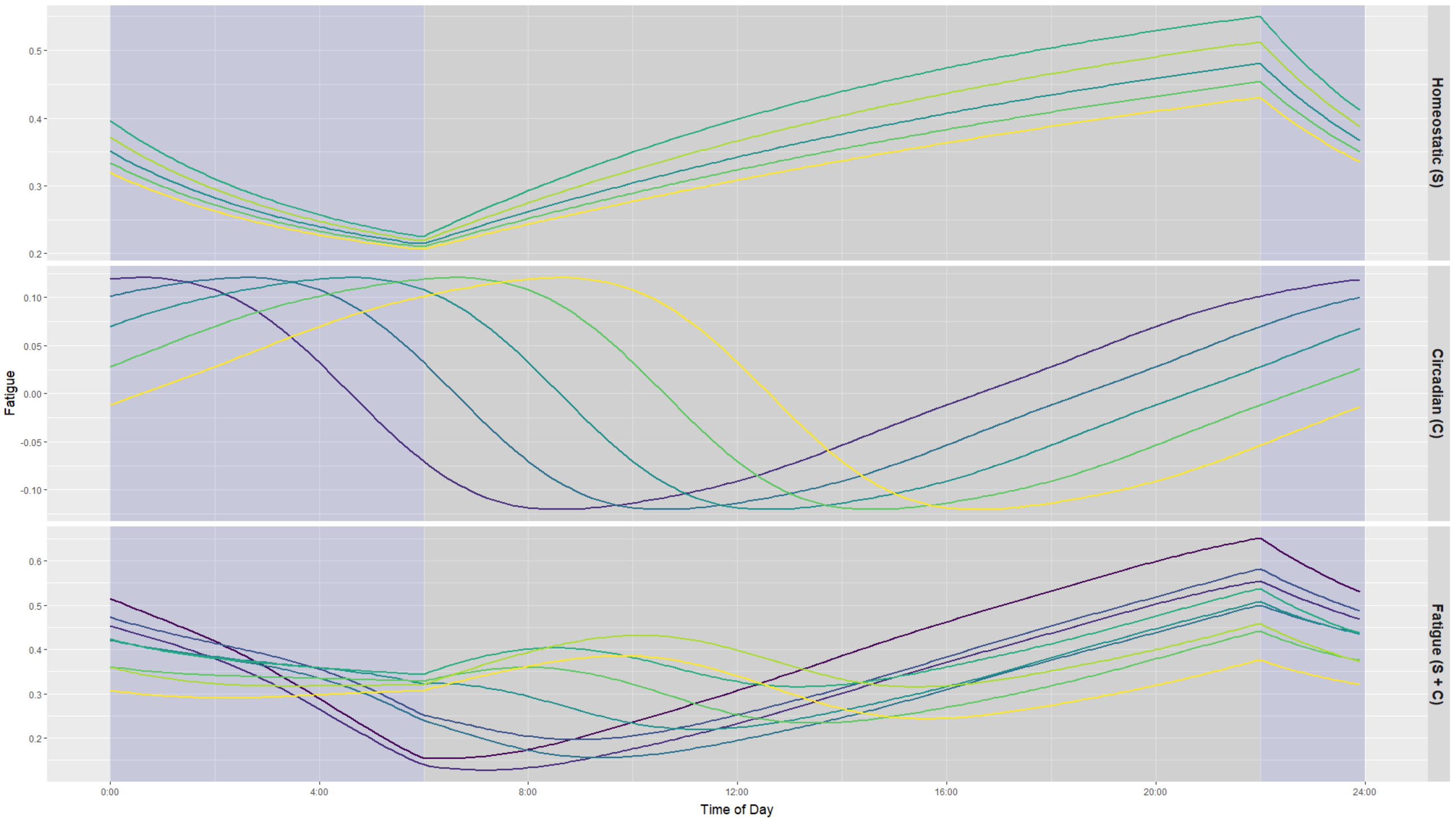
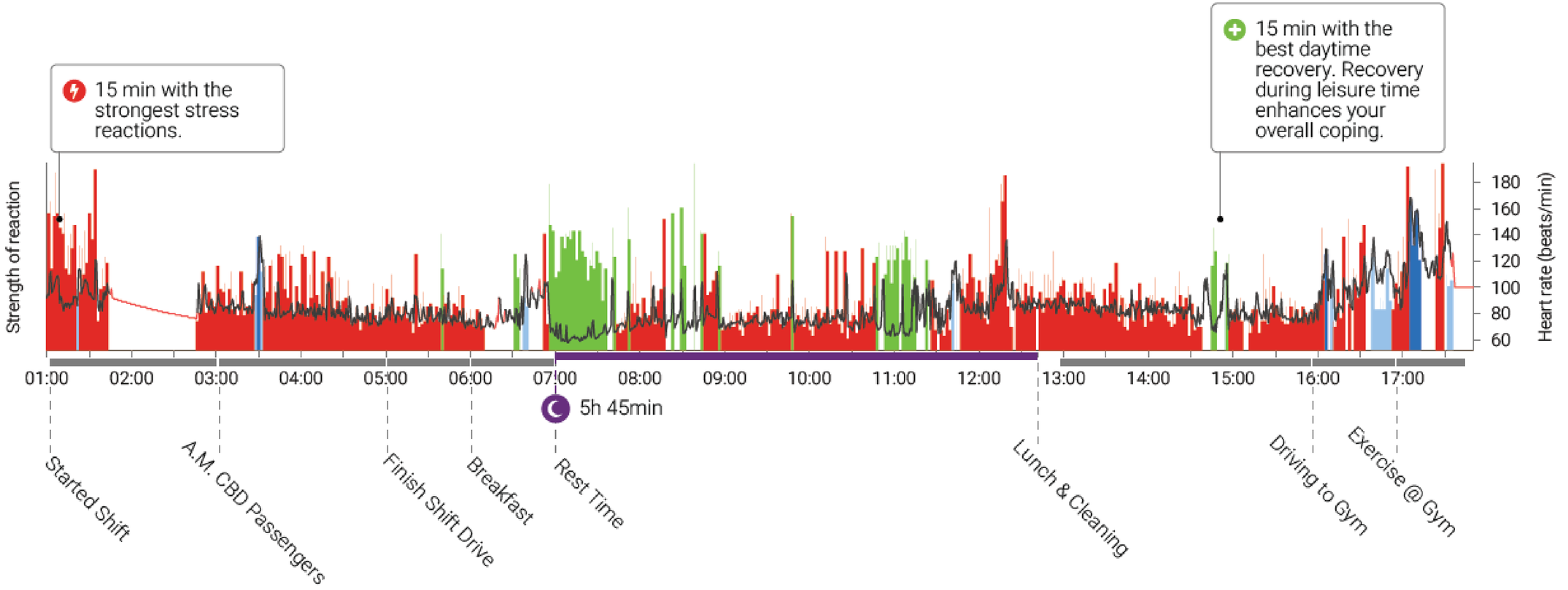
Worklife systems




THIS MODERN LIFE:
WORK
HOME
PLAY
SLEEP


At work
Sleeping


Homeostatic (S)
Circadian (C)
Fatigue (S + C)
Fatigue
Time of Day
0.5
0.4
0.3
0.2
0.10
0.05
0.00
-0.05
-0.10
0.6
0.5
0.4
0.3
0.2
0:00
4:00
8:00
12:00
16:00
20:00
24:00



STRESS AND RECOVERY

STRESS AND RECOVERY BALANCE

60 - 100p Good
30 - 59p Moderate
0 - 29p Low

-
100

Points were not calculated because the measurement was too short (< 18h).

AMOUNT OF STRESS REACTIONS **10h 59min**

≤ 60% Normal | > 60% More than usual **65%**

SLEEP

RESTORATIVE EFFECT OF SLEEP

60 - 100p Good
30 - 59p Moderate
0 - 29p Low

14
100

The sleep period was shorter than recommended and recovery was poor.

LENGTH OF SLEEP **5h 45min (Moderate)**

AMOUNT OF RECOVERY DURING SLEEP **1h 9min**

< 50% Low | 50 - 74% Moderate | ≥ 75% Good **20%**

Work-life system & subsystems

Psychological and physiological mediators

Performance

Shift - days

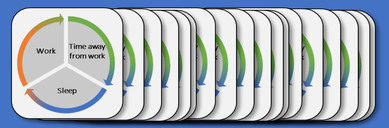
Primary Mediators

Psychological
e.g., affective states
Physiological
e.g., heart rate variability

Daily Performance

Task performance
Vigilance
Safety

Mission - months



Secondary Mediators

Psychological
e.g., engagement
Physiological
e.g., resting heart rate

Mission Performance

Trajectories and patterns of goal accomplishment

Career - years

Tertiary Endpoints

Psychological
e.g., resilience
Physiological
e.g., cardiovascular disease

Career Performance

Personal growth and sustainability

ENDURANCE

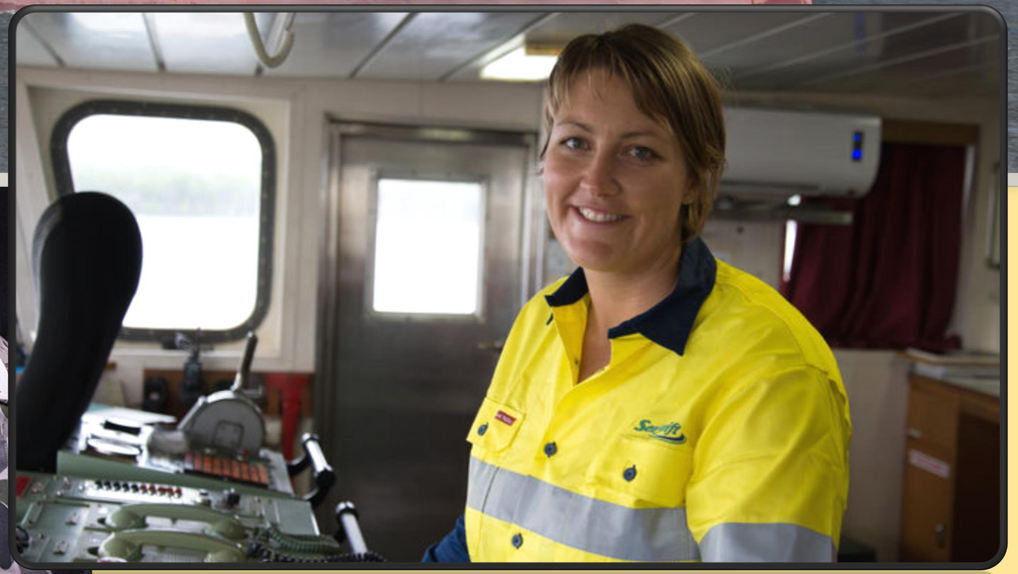
Teams in Space: It Isn’t Just Rocket Science

COVER STORY – APS OBSERVER

Mariko Hewer and Scott Sleek

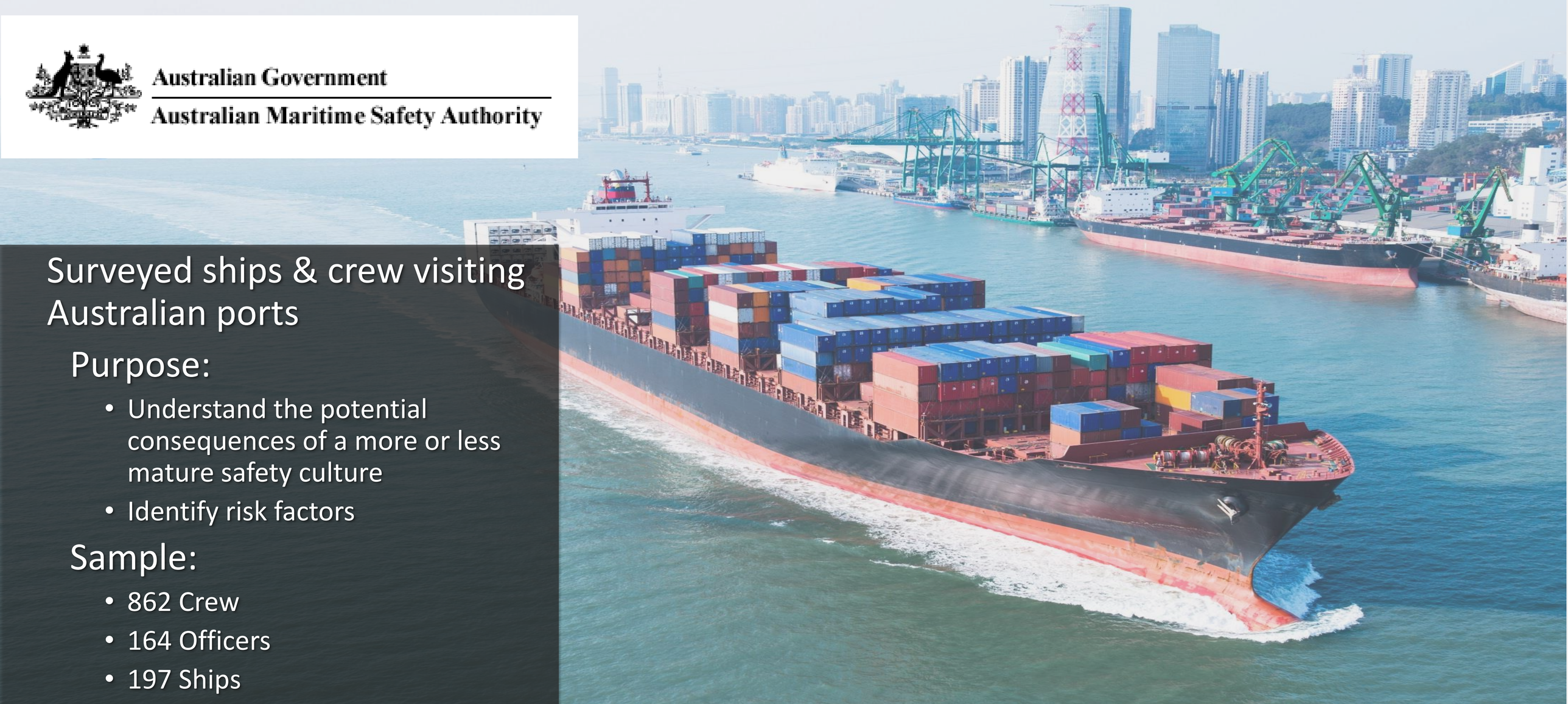

MAERSK LINE


AUSTRALIA
DURVE



Survey of International Vessels

Australian Government
Australian Maritime Safety Authority



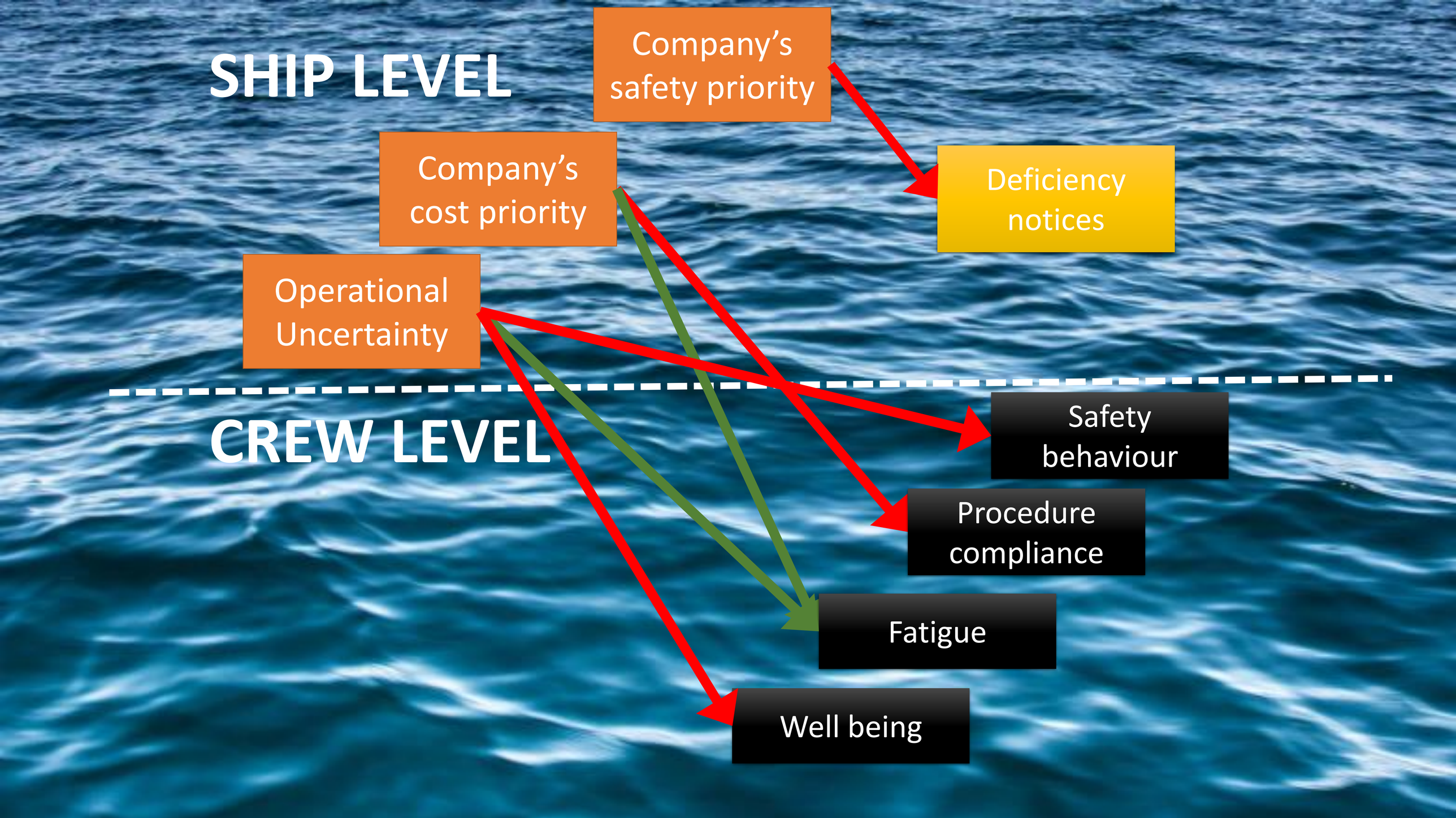
Surveyed ships & crew visiting Australian ports

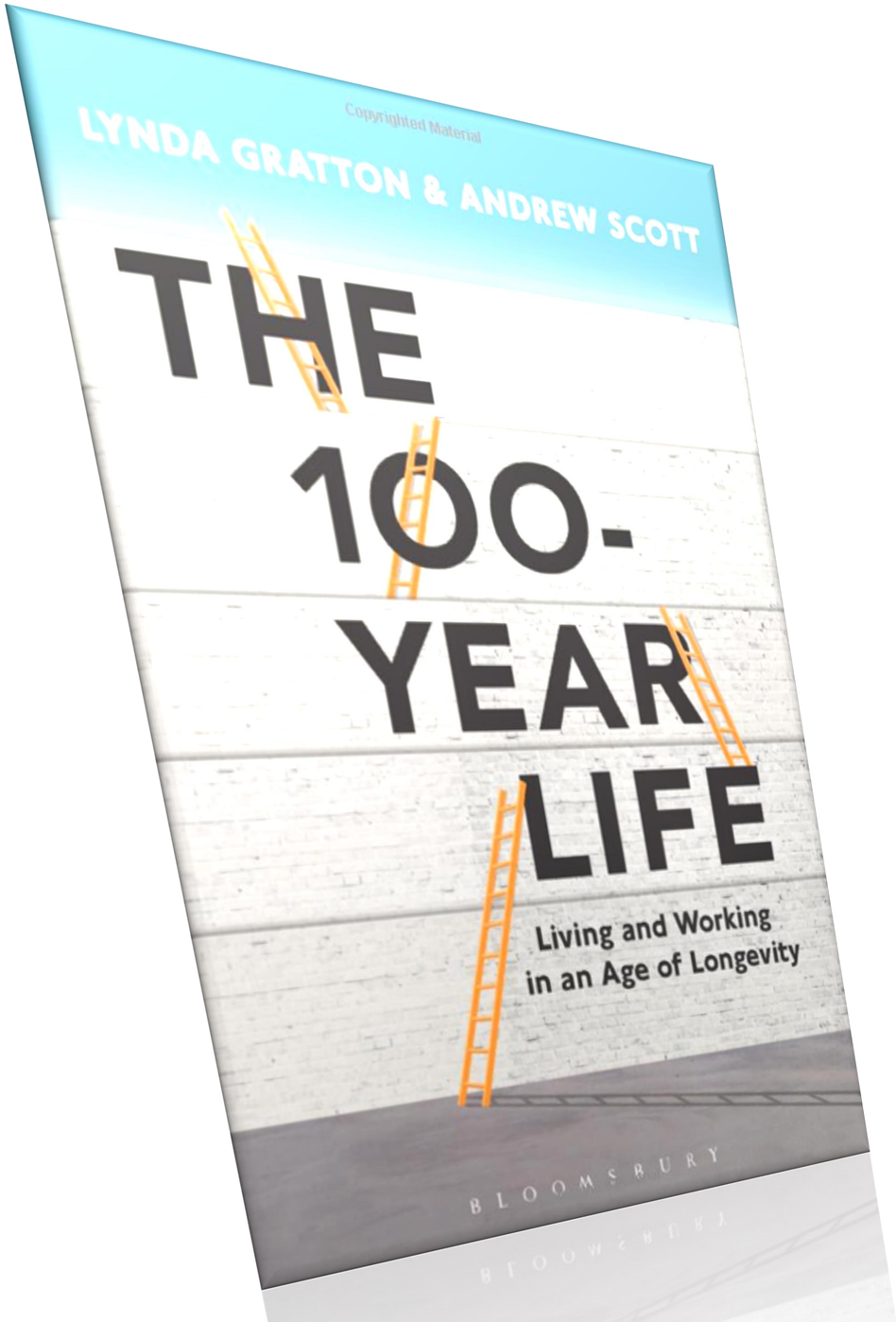
Purpose:

- Understand the potential consequences of a more or less mature safety culture
- Identify risk factors

Sample:

- 862 Crew
- 164 Officers
- 197 Ships


SHIP LEVEL
Company's safety priority
Company's cost priority
Operational Uncertainty
Deficiency notices
CREW LEVEL
Safety behaviour
Procedure compliance
Fatigue
Well being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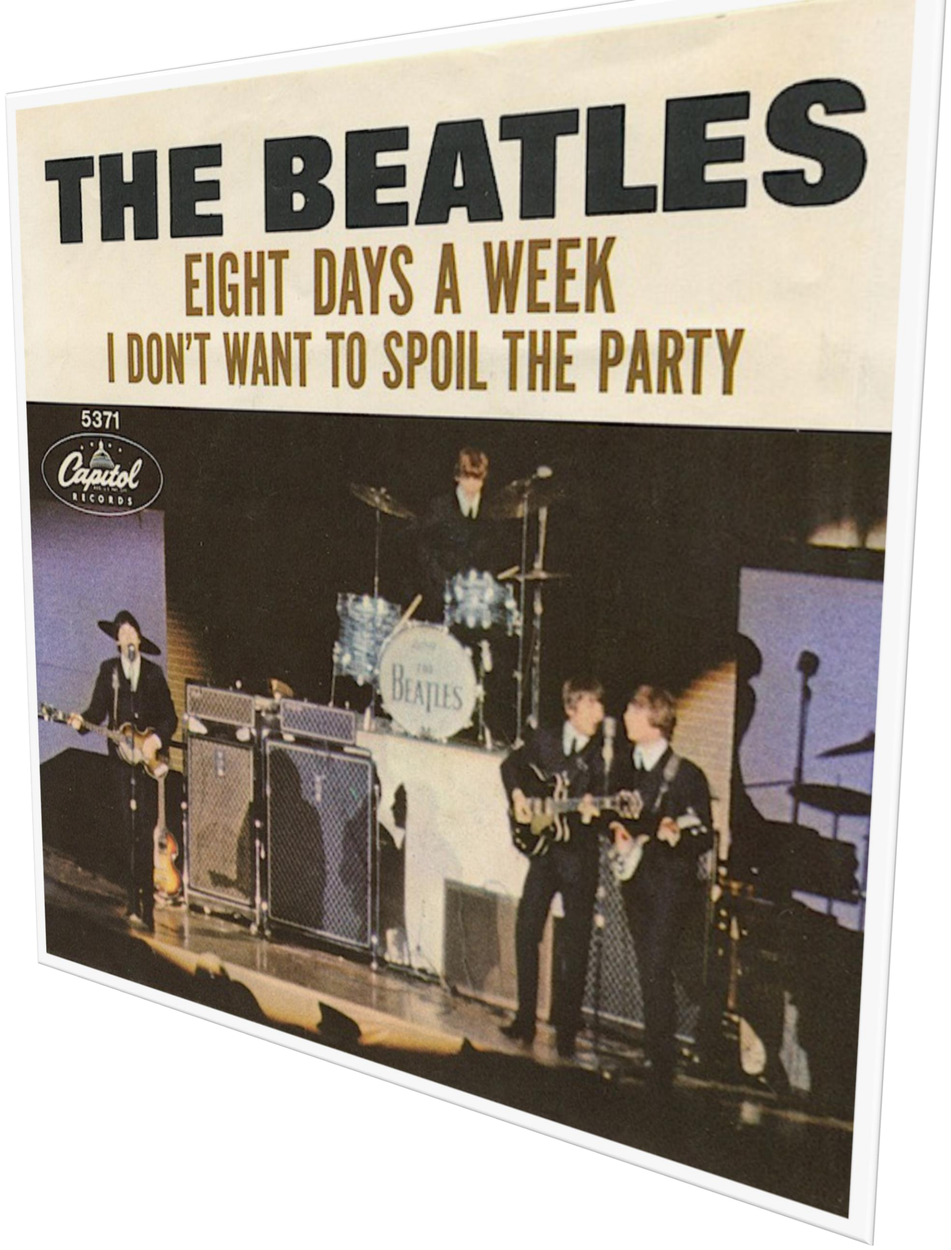
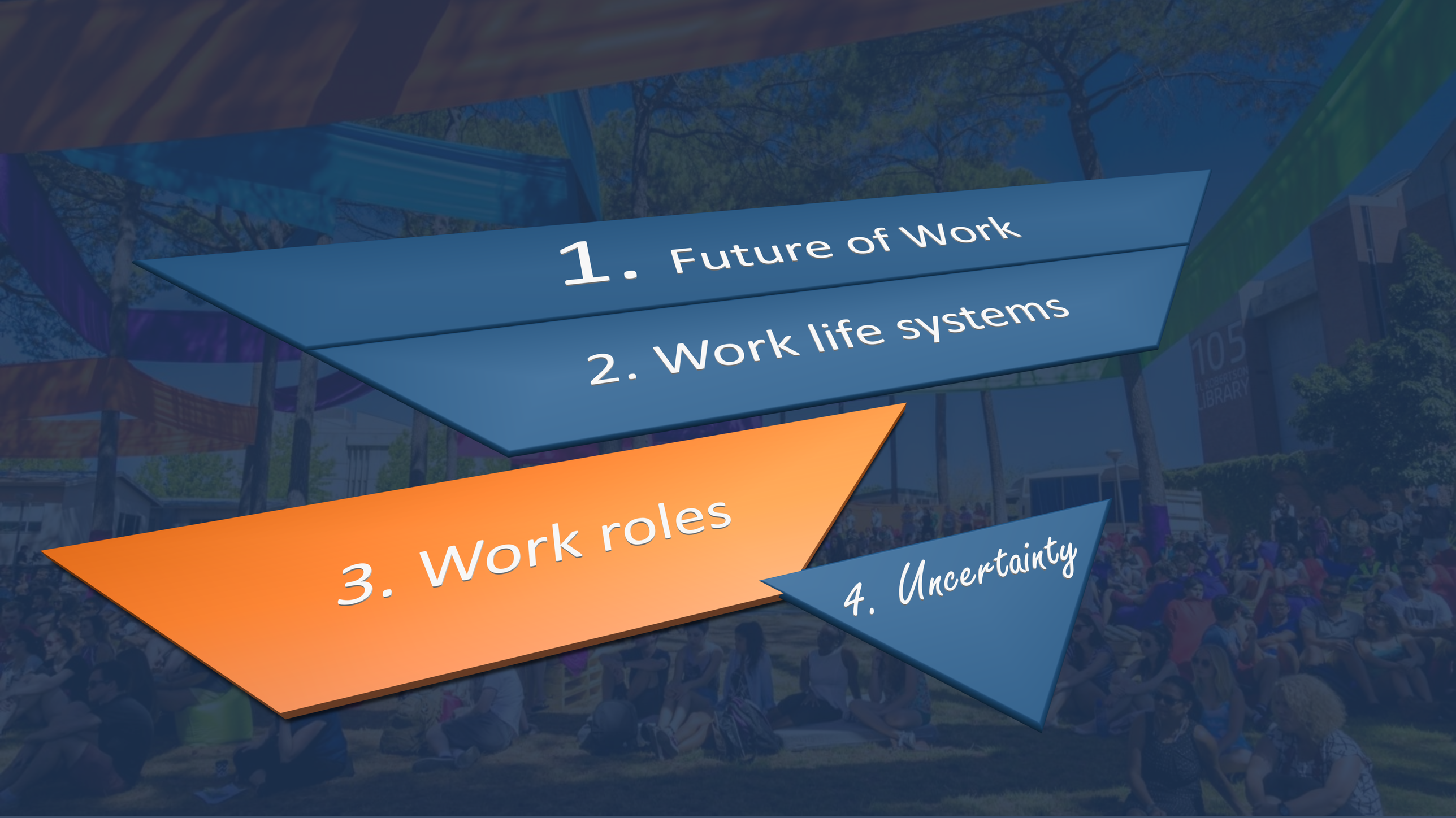
LYNDA GRATTON & ANDREW SCOTT
THE 100-YEAR LIFE
Living and Working in an Age of Longevity
BLOOMSBURY


THE BEATLES
EIGHT DAYS A WEEK
I DON'T WANT TO SPOIL THE PARTY
5371
Capitol
RECORDS
THE BEATLES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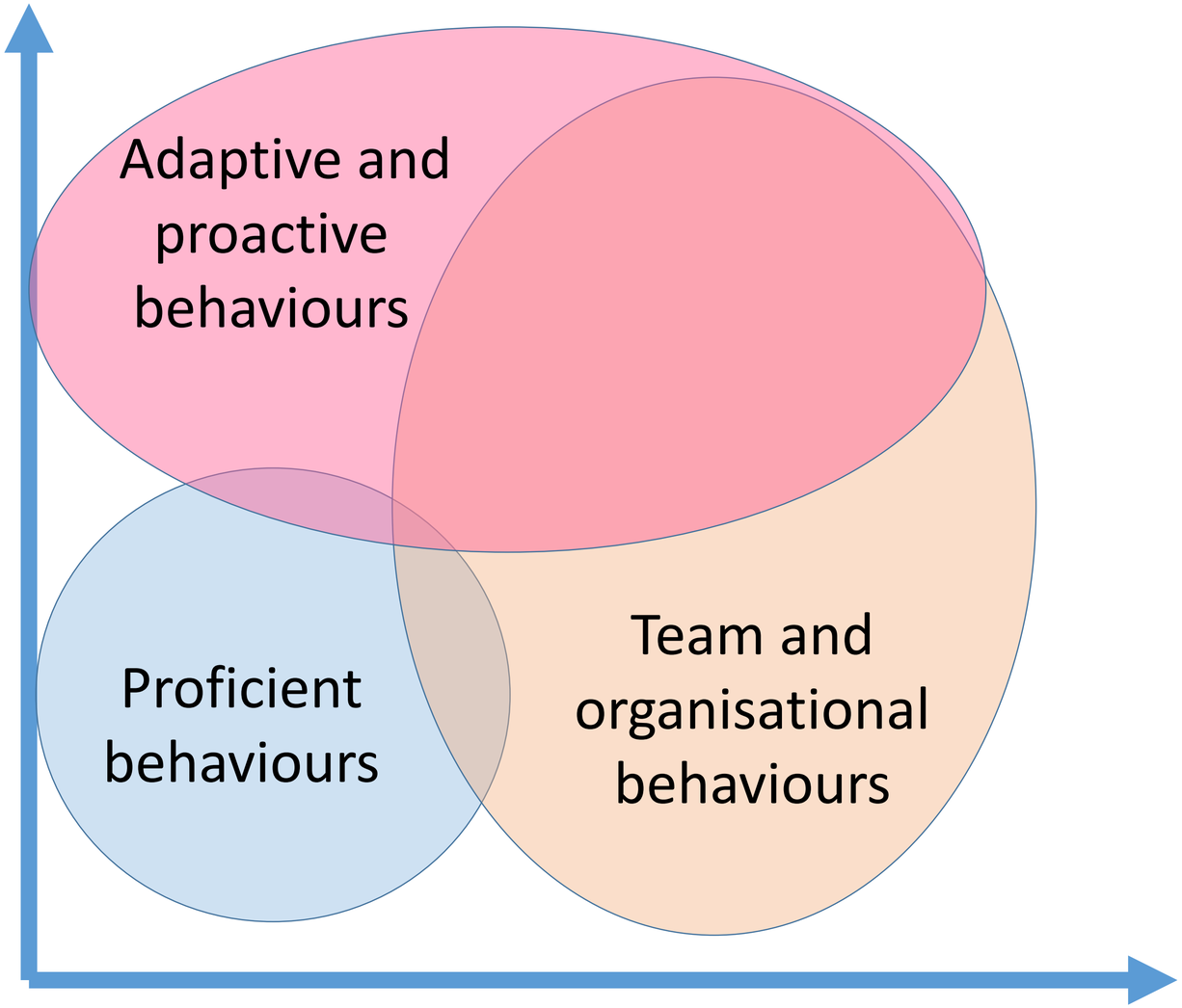
Uncertainty

Higher levels of uncertainty require emergent behaviours that are difficult to specify in advance.



Griffin, Neal, & Parker, 2007

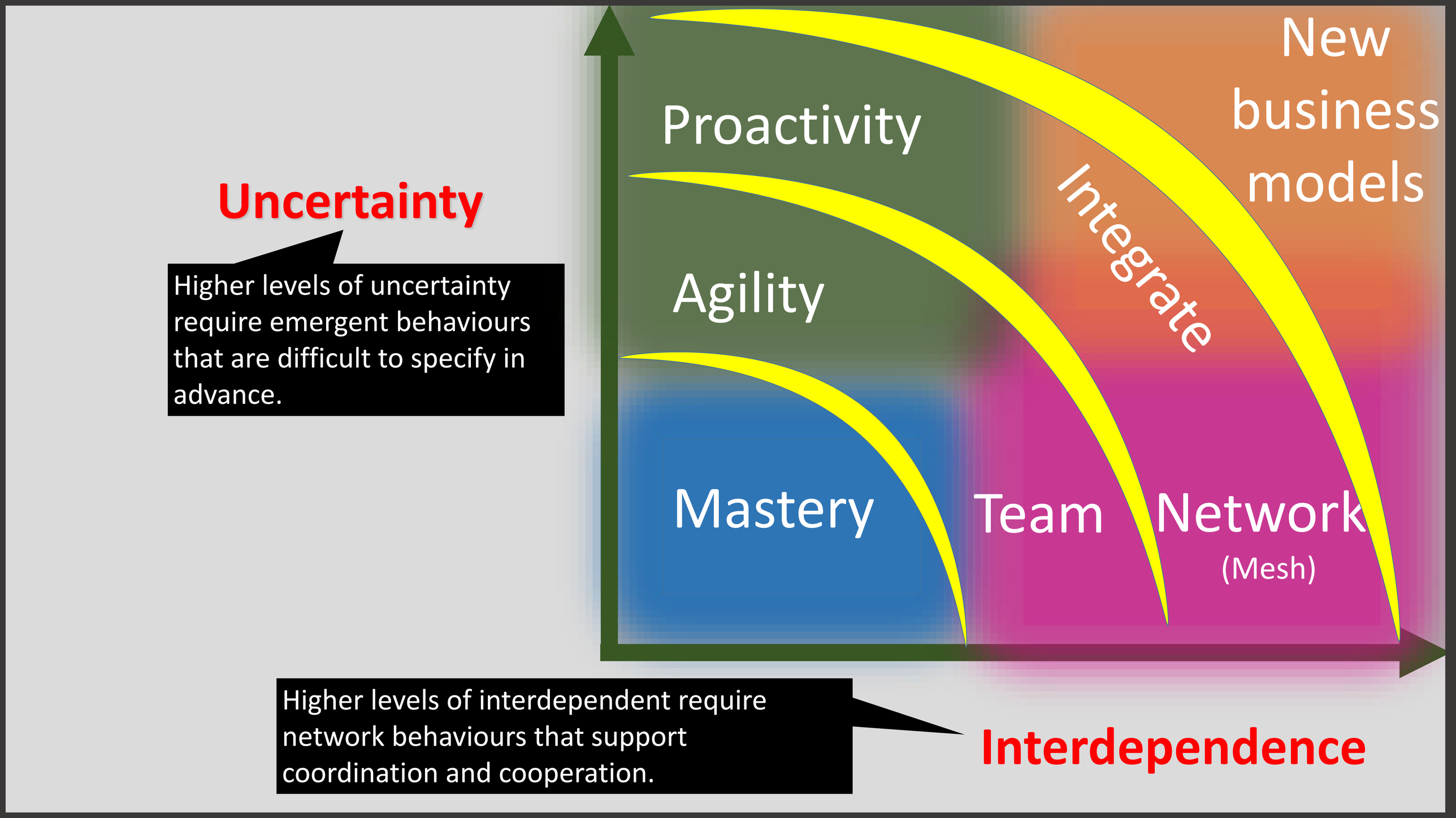
Interdependence

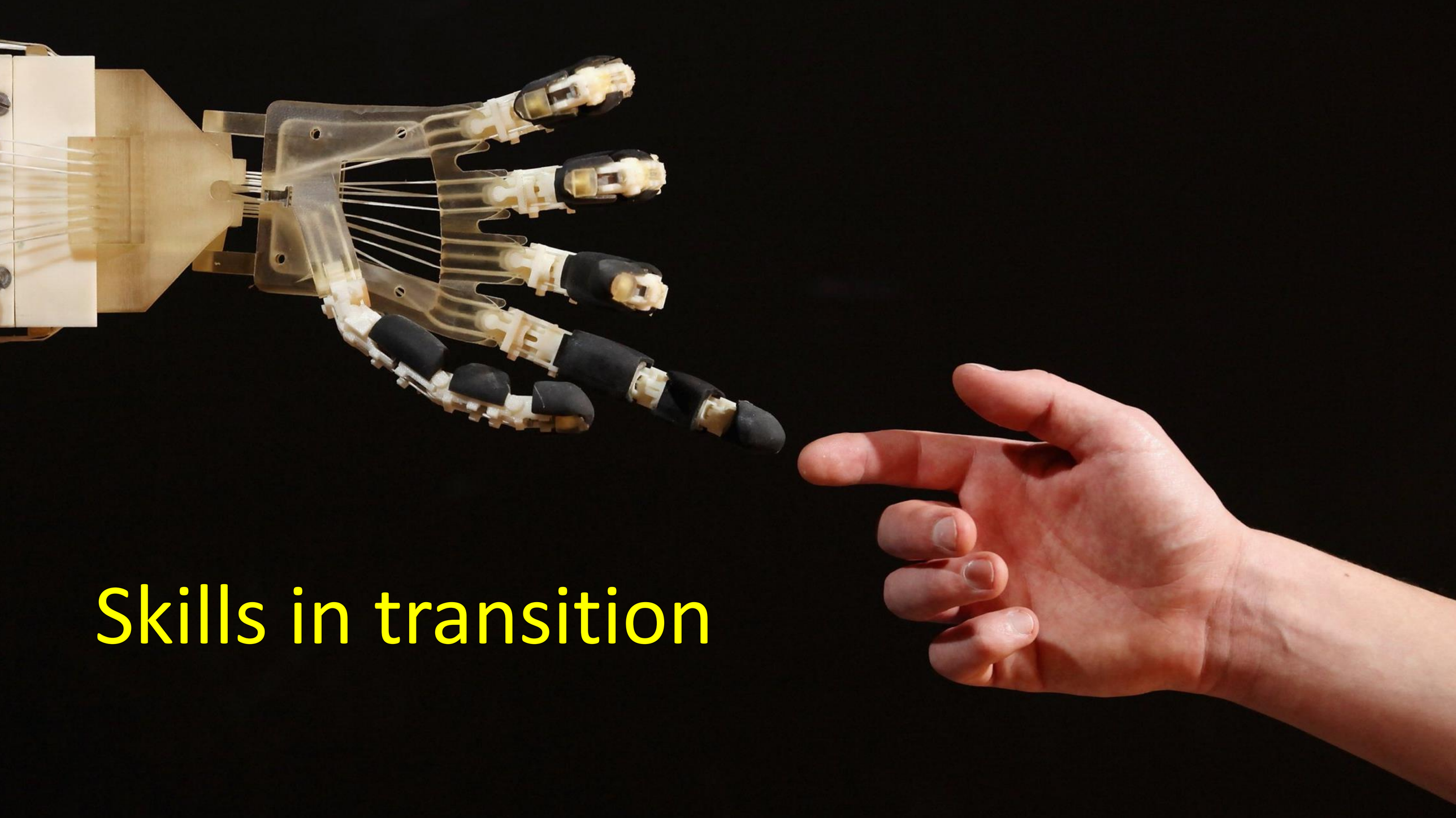
Higher levels of interdependent require network behaviours that support coordination and cooperation.

Table 3. *Synthesis of Individual Performance Constructs into the Griffin et al. (2007) Performance Model*

	Proficiency	Adaptivity	Proactivity
Individual Task Behaviors	Job role behavior [1] Job specific performance [2] Monitoring and maintaining quality [3] Non-job specific performance [2] Planning and organizing [3] Presenting and communicating information [3] Task performance [4, 5] Working systematically [3] Writing and reporting [3] Written and oral communication [2] OCB-O [6] **Persistence and Effort** [7, 8] Demonstrating effort [2] Individual initiative [9] Job dedication [10] Personal industry [11] **Adherence to Rules & Procedures** [8, 21] Compliance [4] Organizational obedience [12] Protection of company resources [13] **Orderliness** [14, 12] **Attendance and Punctuality** [8, 21] Conscientiousness [13] Job dedication [10] Personal industry [15]	Adapting and responding to change [3] Adapting+ [3] Dealing with ambiguity+ [3] Dealing with uncertain and unpredictable work situations [5] Demonstrating physical adaptivity [24] Handling emergencies or crisis situations [24] Learning work tasks, technologies and procedures [24] Reactive adaptivity+ [25] Sportsmanship+ [21, 26] Task adaptivity [27]	Challenging OCB [45] Constructive ideas+ [27] Individual Innovation+ [29, 43] Innovator role+ [1] Making constructive suggestions+ [22] Personal initiative + [44] Proactive behavior+ [30] Proactive work behavior+ [31] Problem prevention+ [31] Seeking and initiating change+ [3] Taking charge+ [32] Voice+ [33] Voluntary performance of task activities+ [4]

Carpini, J., Parker, S., & Griffin, M. (2017). A Look Back and a Leap Forward: A Review and Synthesis of the Individual Work Performance Literature. *Academy of Management Annals, annals. 2015.0151.*


Uncertainty
Higher levels of uncertainty require emergent behaviours that are difficult to specify in advance.
Proactivity
Agility
Mastery
Team
Network
(Mesh)
Integrate
New business models
Higher levels of interdependent require network behaviours that support coordination and cooperation.
Interdependence



Skills in transition

The Dandelion Program

Integrating autism in the workplace.
A DXC initiative to build IT skills and careers for people on the autism spectrum.

Skills in new people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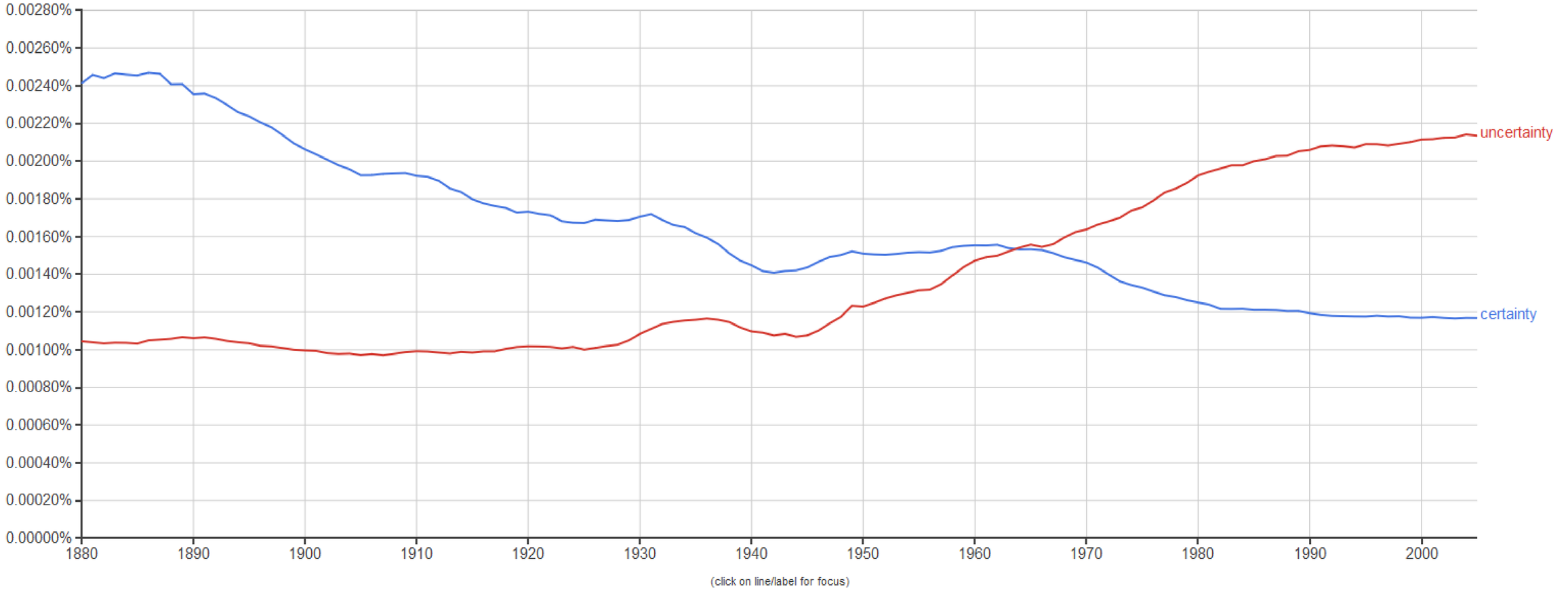
Google books Ngram Viewer

Graph these comma-separated phrases: certainty,uncertainty case-insensitive

between 1880 and 2005 from the corpus English with smoothing of 3 . Search lots of books



Reducing uncertainty

Social identity theory

Uncertainty management theory

Decision making under uncertainty

Naturalistic decision making

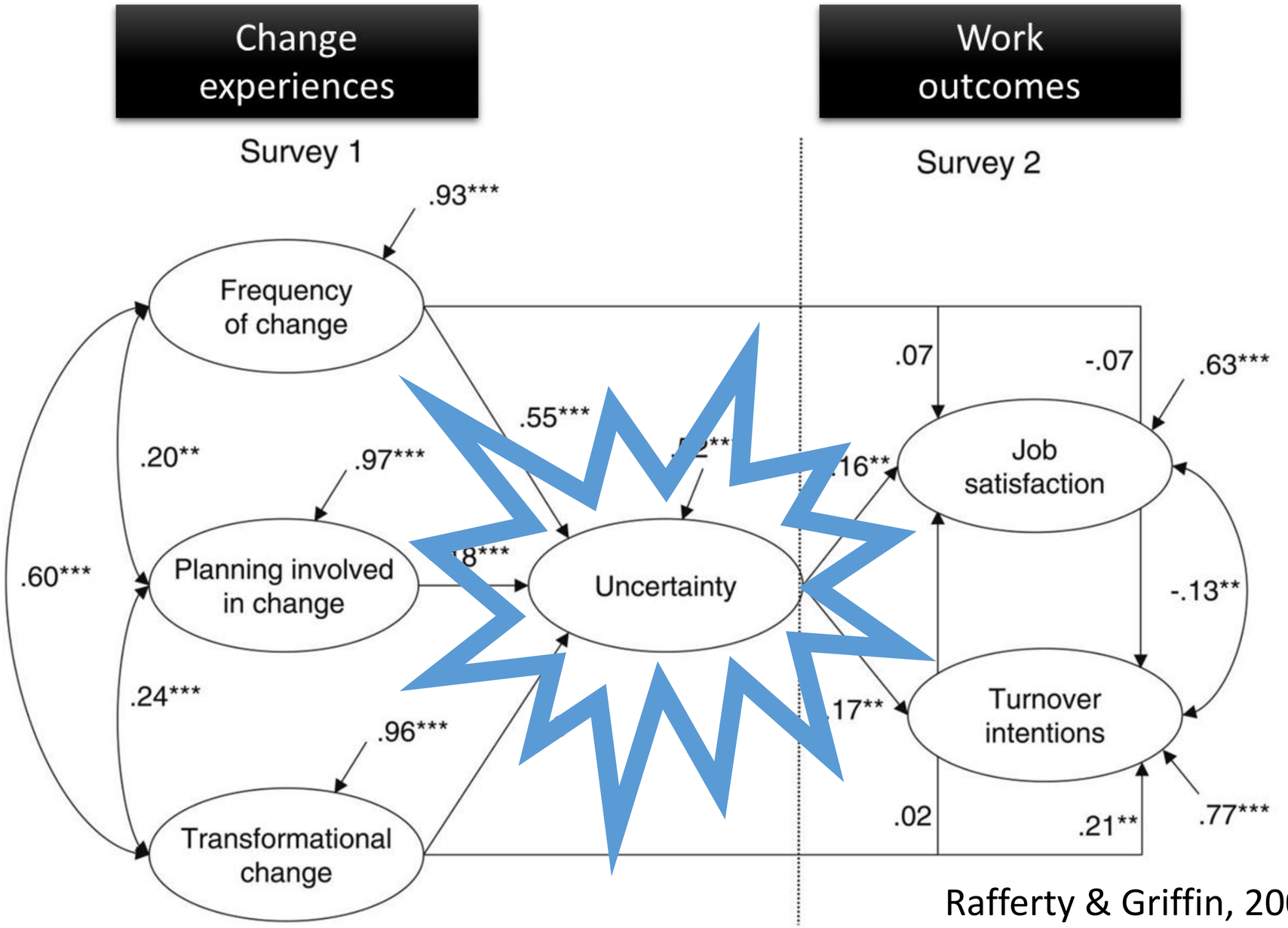
Theories of work stress

Terror management

Prospect theory

Free energy principle

Predictive processing



Rafferty & Griffin, 2006

Uncertainty

Uncertainty refers to the impossibility of exact predictions and risk refers to the possible negative consequences of uncertainty.

(Knight, 1921)

.

First principles

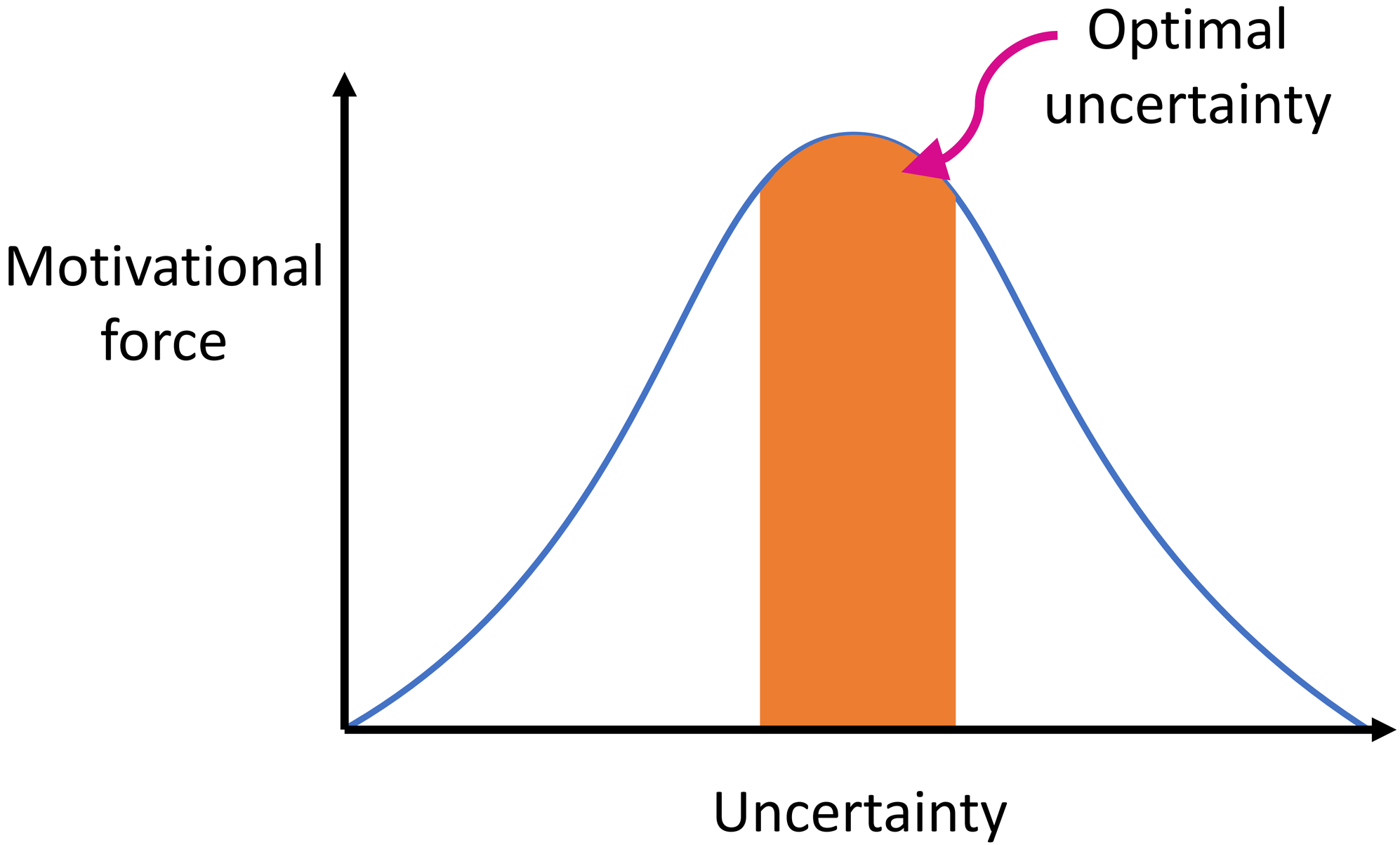
Pfeffer & Fong 2005

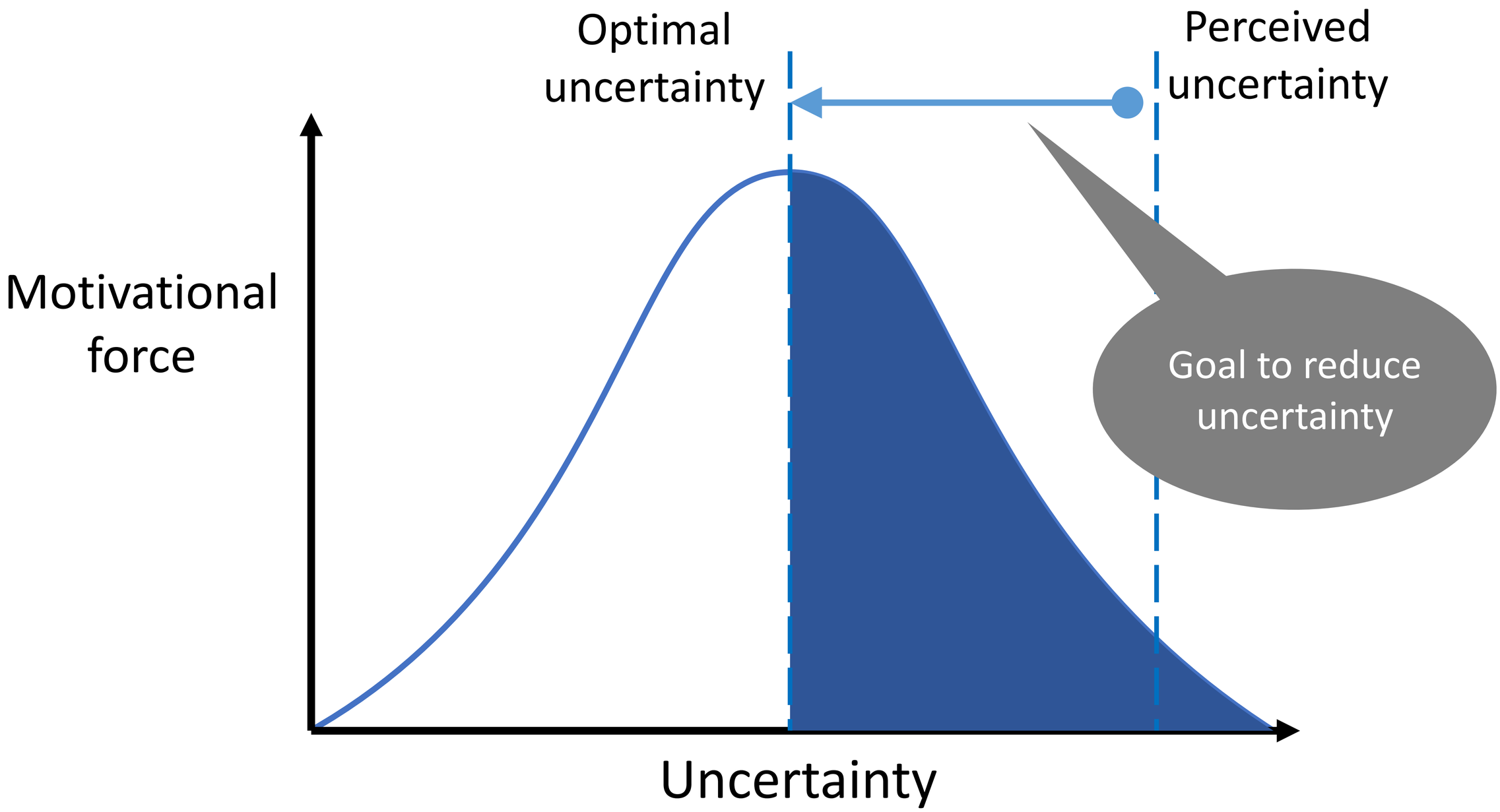
The motivating force of uncertainty in intentional and goal-directed self-regulatory activities is a non-monotonic, or inverted-U shaped, function

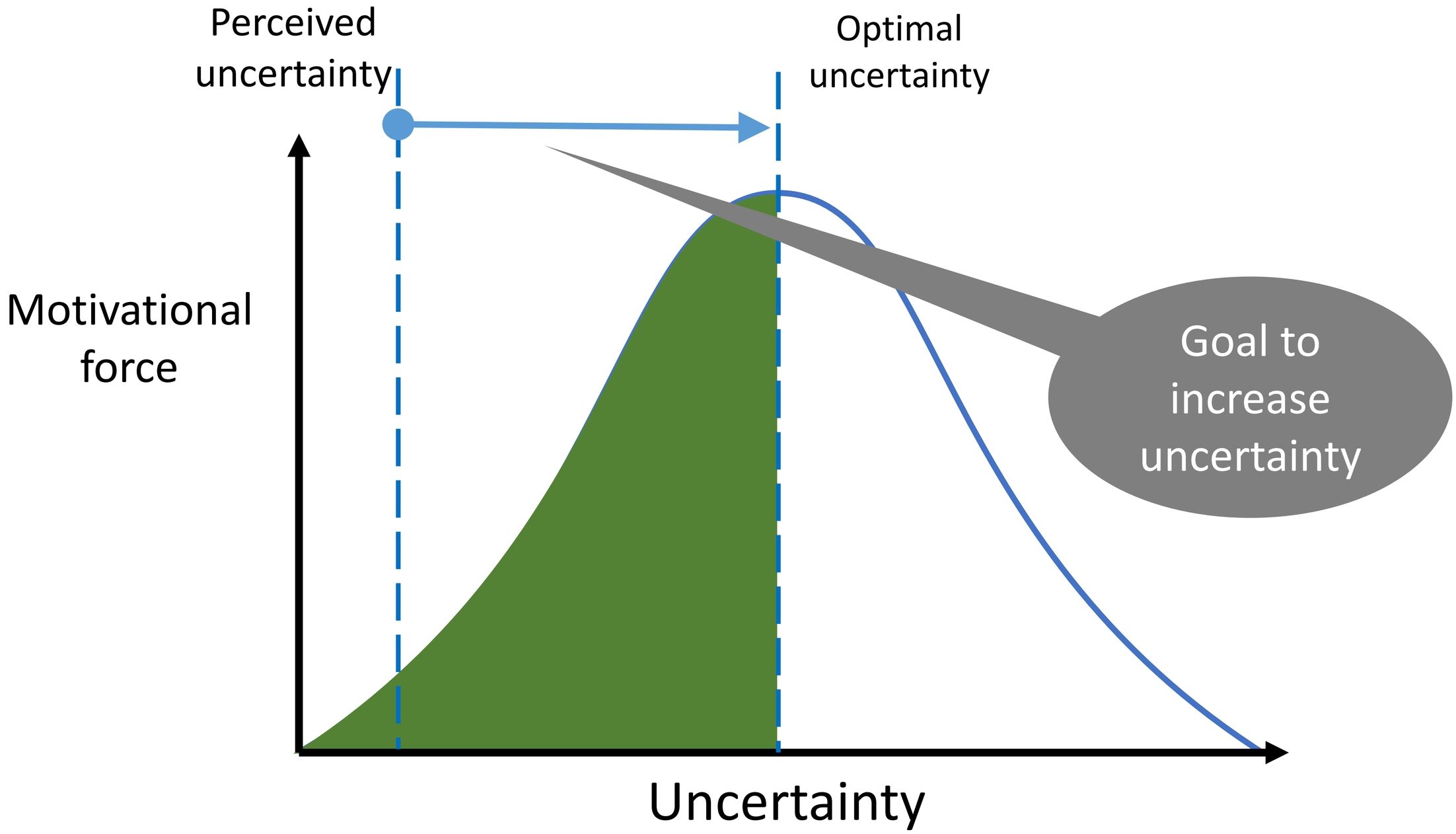
Fundamental Uncertainty

An inherent
lack of predictability
in future events

Experienced Uncertainty


Optimal uncertainty
Motivational force
Uncertainty


Optimal uncertainty
Perceived uncertainty
Motivational force
Goal to reduce uncertainty
Uncertainty


Perceived uncertainty
Optimal uncertainty
Motivational force
Goal to increase uncertainty
Uncertainty

Beneficial uncertainty

<u>Positive Affect</u>

Pleasure paradox Wilson et al. (2005)

Romantic attraction Whitchurch et al. (2010)

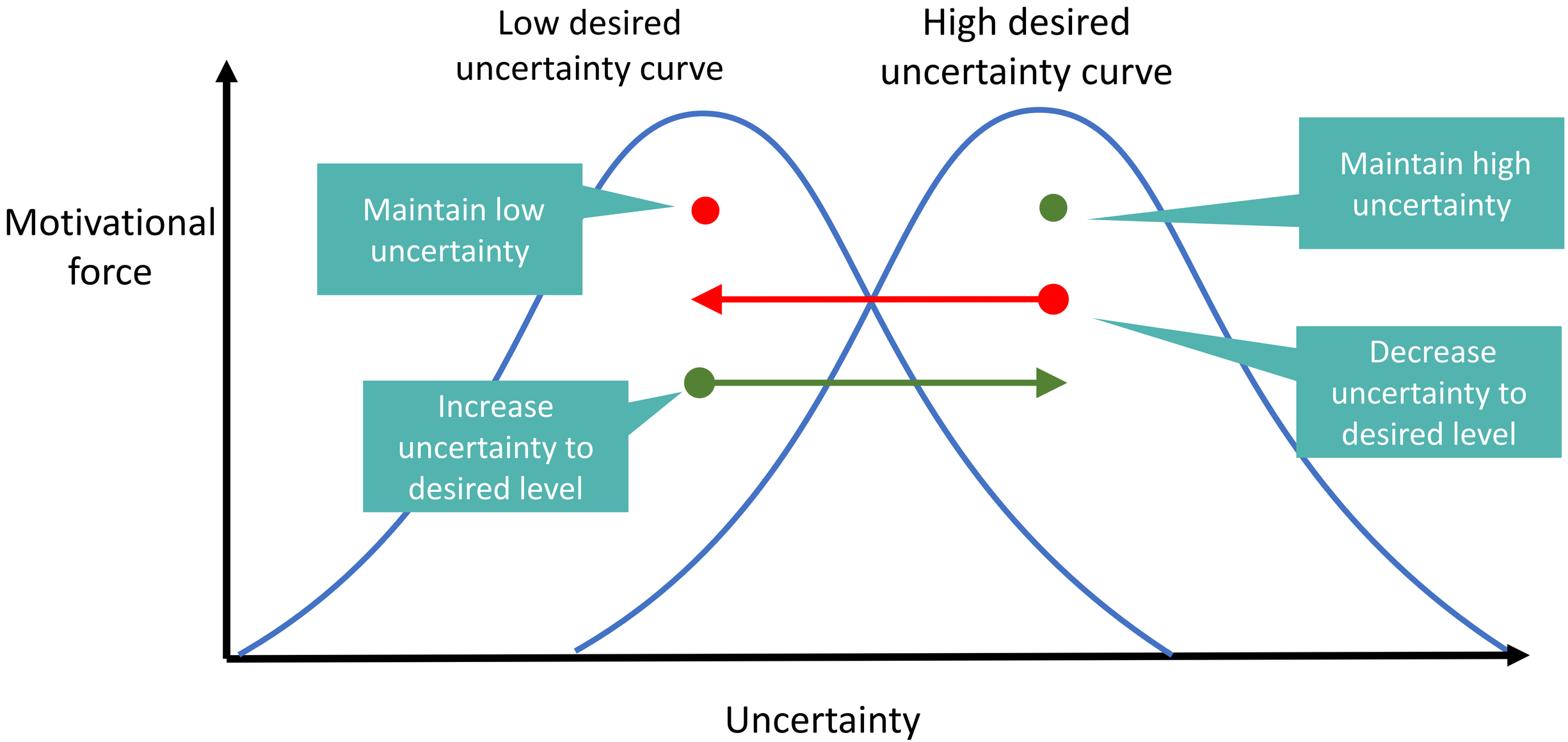
Product marketing Shen et al. (2015)

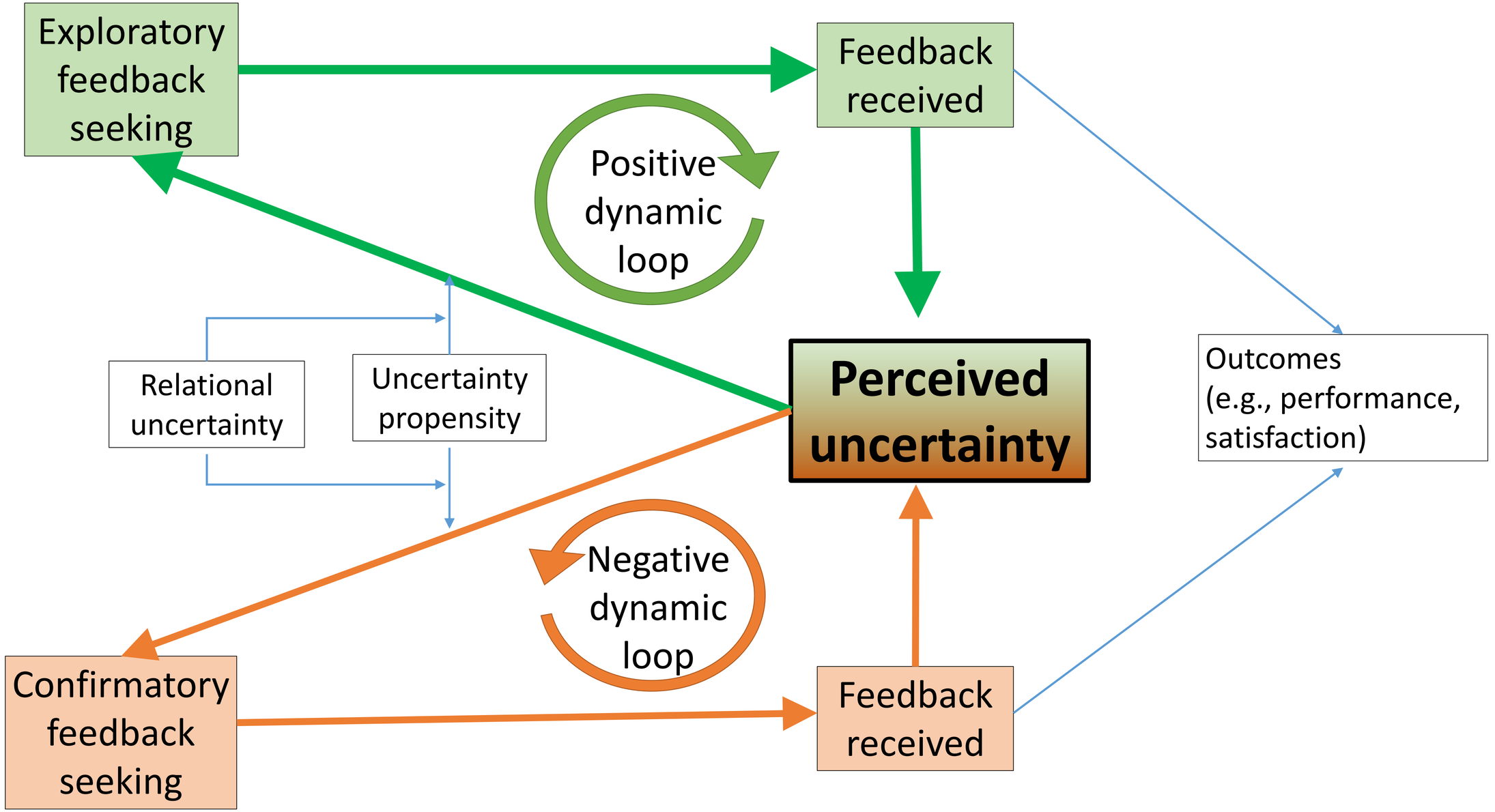
<u>Interest, curiosity, surprise</u>

Interest heightens attention Ainley et al. 2002)

Curiosity directs exploration Lowenstein (1994)

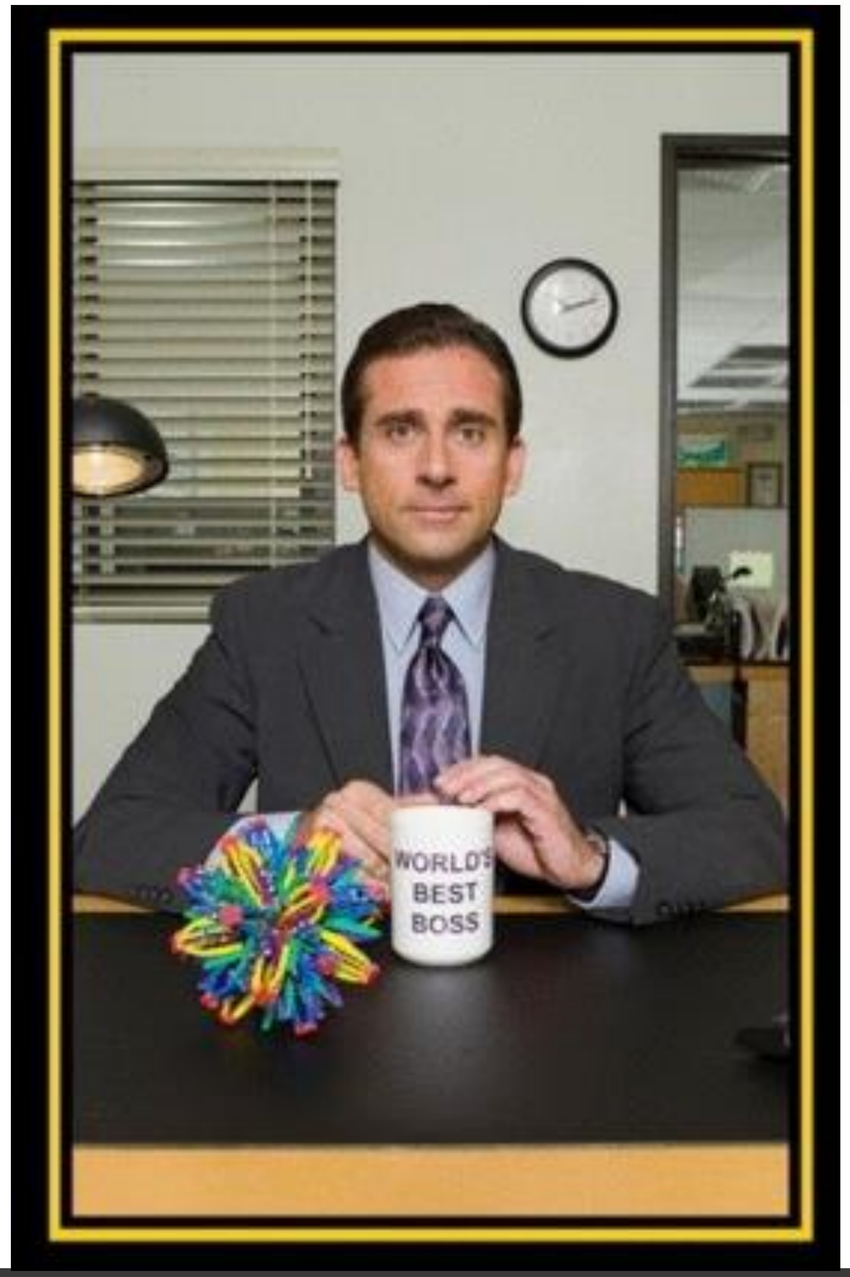
Surprise and contrary events Oudyer & Kaplan (2007)


Low desired uncertainty curve
High desired uncertainty curve
Motivational force
Maintain low uncertainty
Maintain high uncertainty
Increase uncertainty to desired level
Decrease uncertainty to desired level
Uncertainty


Exploratory feedback seeking
Feedback received
Positive dynamic loop
Relational uncertainty
Uncertainty propensity
Perceived uncertainty
Outcomes (e.g., performance, satisfaction)
Negative dynamic loop
Confirmatory feedback seeking
Feedback received

Implications

Uncertainty



Proactivity

Agility

Mastery

LEADERSHIP

Team

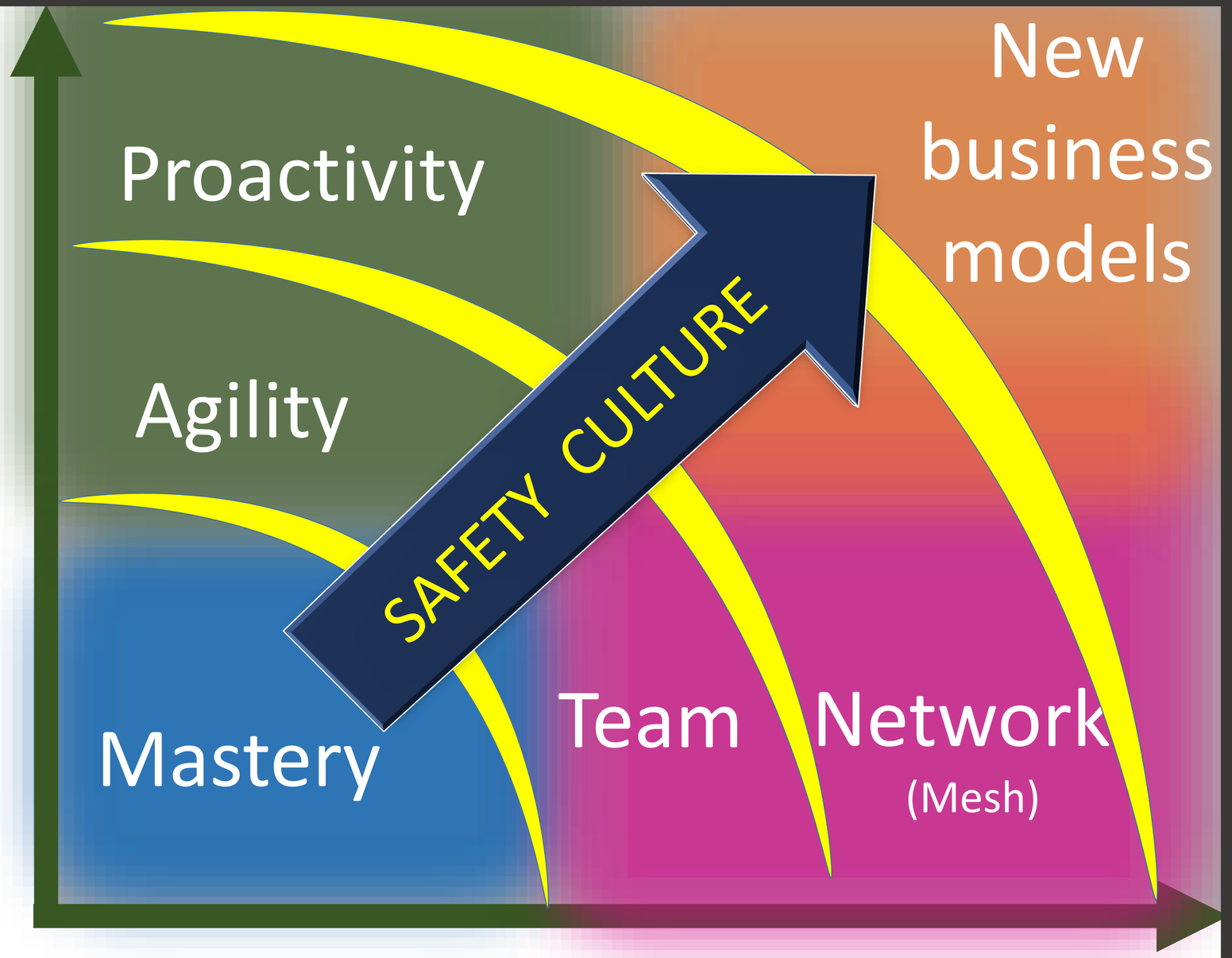
Network
(Mesh)

New business models

Interdependence

Uncertainty

BGC Contracting

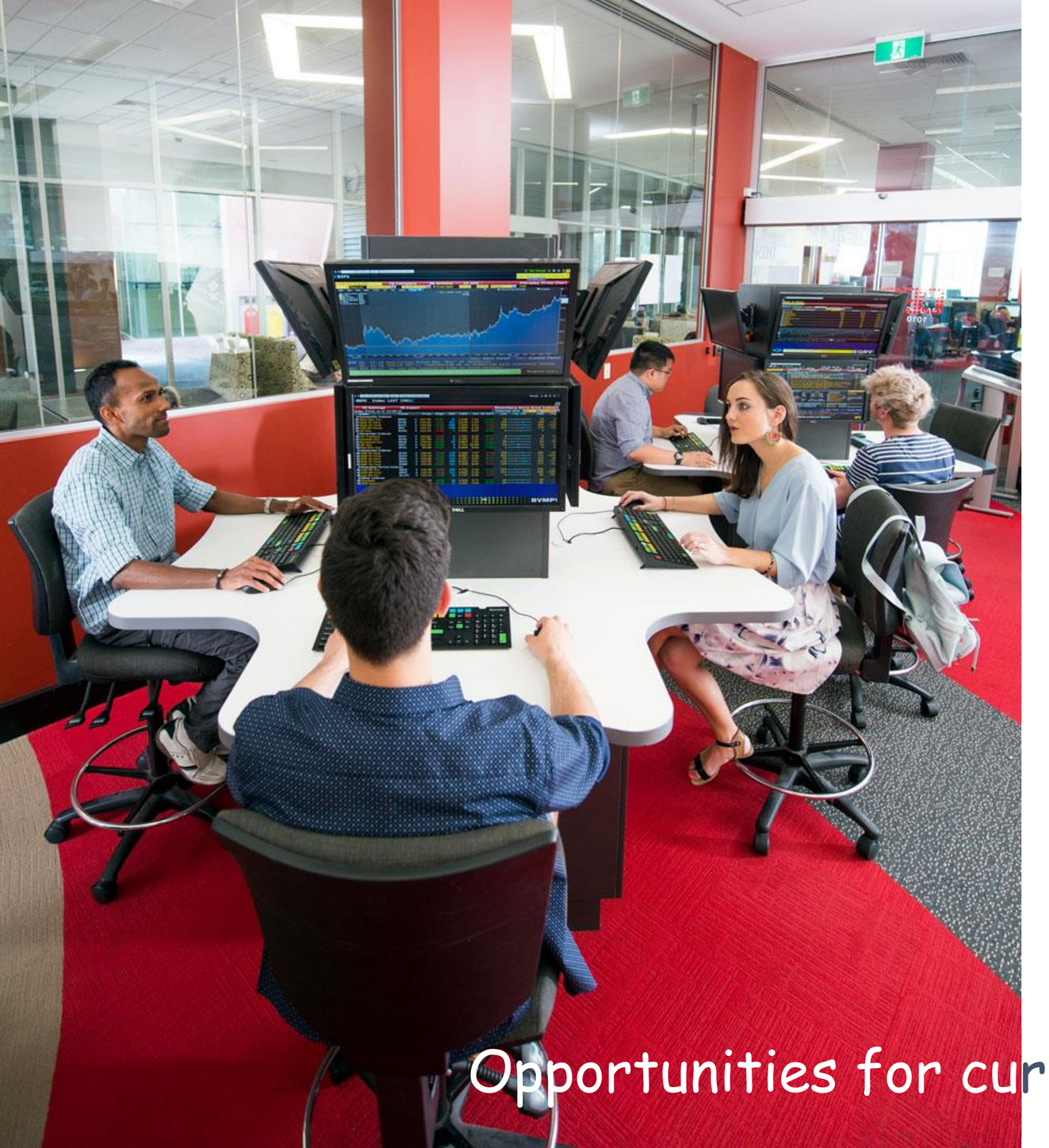


Interdependence

Creating uncertainty

Safety and hazardous industries

Opportunities for curiosity, surprise, and exploration



Creating uncertainty

Work design

Opportunities for curiosity and exploration

Creating uncertainty

Opportunities for curiosity and exploration

Thank you

Questions

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