



**Institut für angewandte
Präventionsforschung**



CCI
CUTTING CRIME
IMPACT

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Webinar CCI-1: Cutting Crime Impact –
*Innovating security solutions with
human-centred design*

Introduction: Margo Molkenbur (DPT-I)

Speakers: Prof Caroline L. Davey (USAL)
Andrew B. Wootton (USAL)

Moderation: Dr Dagmar Heinrich (USAL)

Date: 2 March 2021, 16.00–17.00 CET





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CUTTING CRIME
IMPACT

Cutting Crime Impact

*Innovating security solutions with
human-centred design*

University of
Salford
MANCHESTER



Professor Caroline L. Davey

Andrew B. Wootton

University of Salford



www.cuttingcrimeimpact.eu

A little about us...

2005

DAC Solution Centre

- Unique partnership established
 - *The University of Salford*
 - *Greater Manchester Police*
 - *Landeskriminalamt Niedersachsen (DE)*
(State Criminal Police of Lower Saxony)
 - *DSP-groep (NL)*
- Engagement with practitioners and access real-world problems / opportunities
- Joint projects



University of
Salford
MANCHESTER



Greater Manchester
POLICE



LANDESKRIMINALAMT
NIEDERSACHSEN

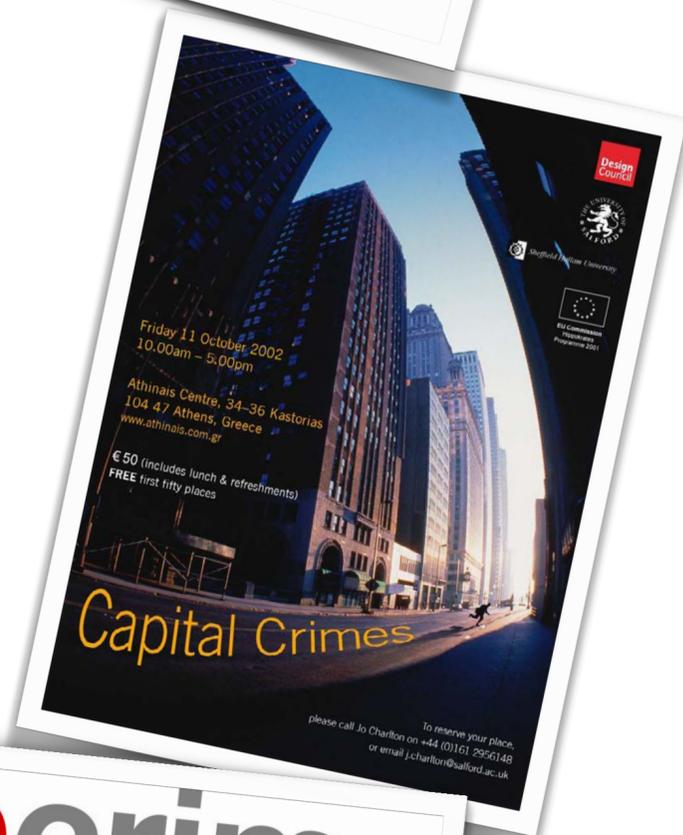
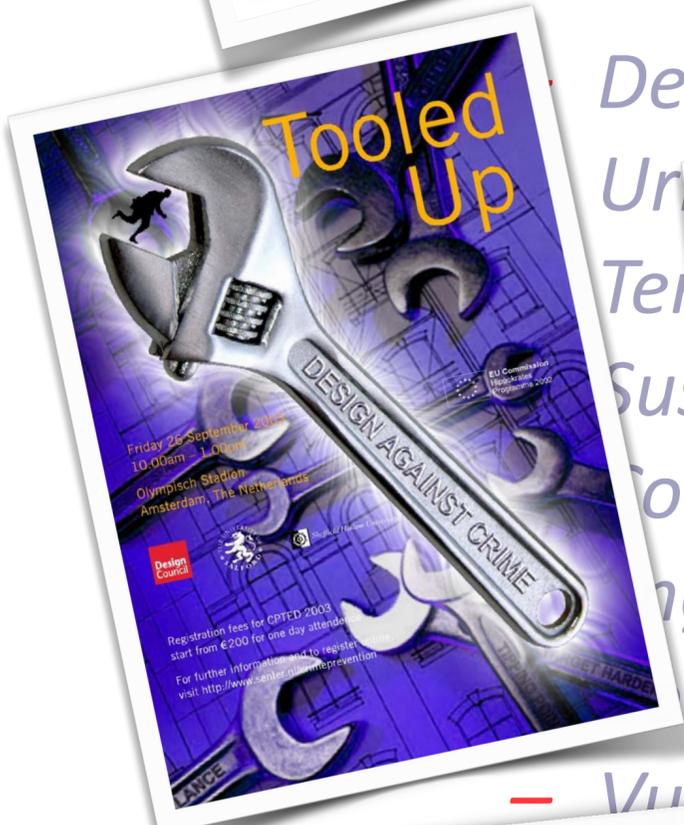


A little about us...

- 20 years experience using design research to understand and address complex issues (Davey & Wootton, 1999–2021), including:
 - *Designing out criminal opportunity*
 - *Urban crime*
 - *Terrorism*
 - *Sustainable urban environments*
 - *Community policing*
 - *Engagement of civil society*
 - *Corporate social responsibility*
 - *Vulnerable young people*



A little about



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 - *Terrorism*
 - *Sustainable urban environments*
 - *Community policing*
 - *Engagement of civil society*
 - *Corporate social responsibility*
 - *Vulnerable young people*
- Employs the design process as an **organising framework** for delivery of human-centred, transdisciplinary research









Narrow 'technology' focus

- Flawed perception that technology is somehow intrinsic to security

“Technology itself cannot guarantee security, but security without the support of technology is impossible.”

SOURCE: Group of Personalities, EU Security Research Programme, 2004

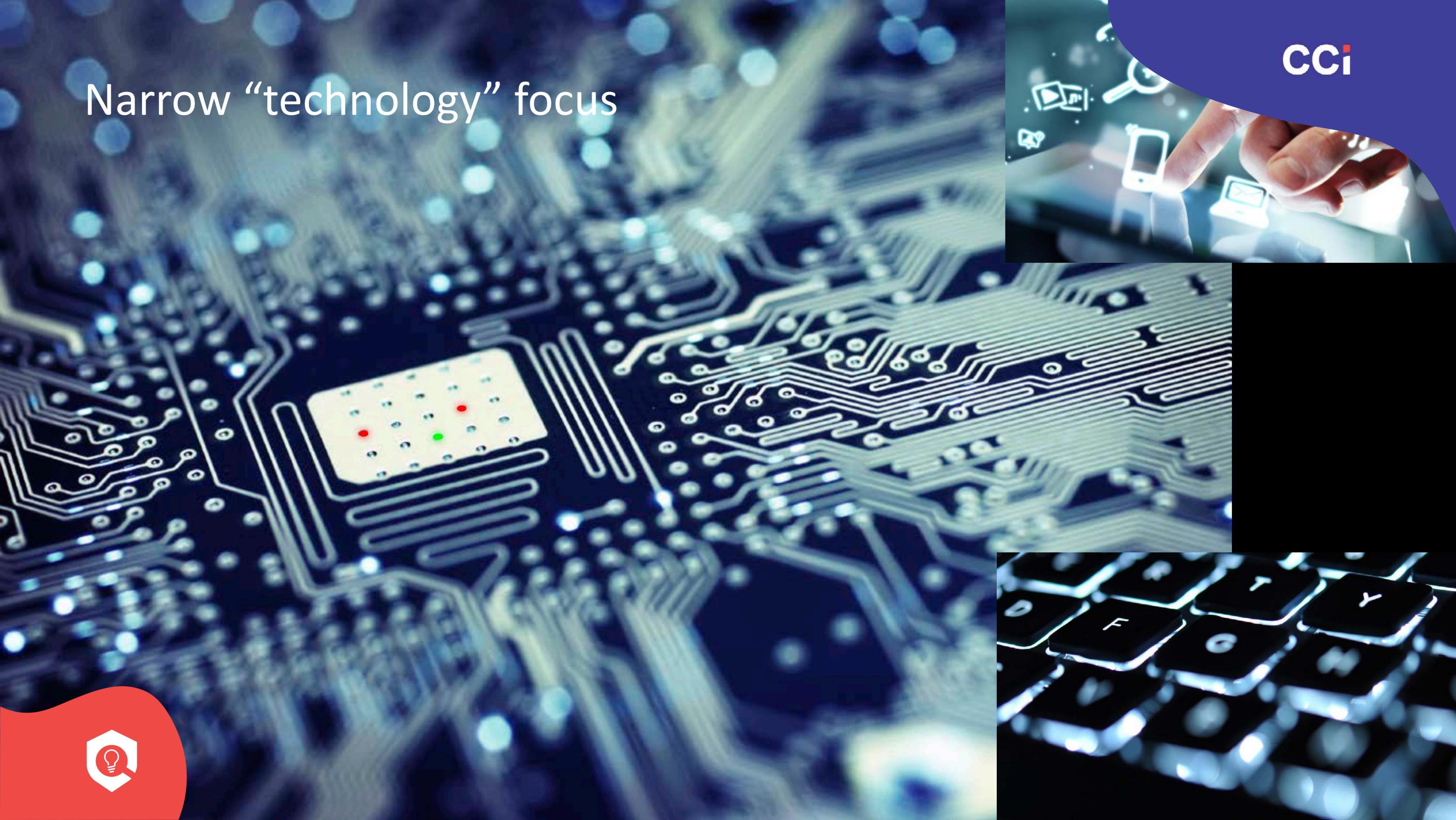
- *No real definition of what exactly is meant by “technology”*

Technology (“science of craft”, from Greek τέχνη, techne, “art, skill, cunning of hand”; and λογία, logia) is the collection of techniques, skills, methods and processes used in the production of goods or services or in the accomplishment of objectives, such as scientific investigation.



Narrow “technology” focus

CCI



Critique

Arming Big Brother
The EU's Security Research Programme

Ben Hayes

TRANSNATIONAL INSTITUTE
TNI BRIEFING SERIES
No 2006/1

Statewatch
monitoring the state and civil liberties in the European Union

T
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TRANSNATIONAL INSTITUTE

NeoConOpticon
The EU Security-Industrial Complex

FRONTEX
2007-2013
Security Research
EUROPEAN SECURITY RESEARCH & INNOVATION 43 UE
ESRIF
GALILEO
BioTesting Europe
Copernicus

in association with
statewatch

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in:ex
Converging and conflicting ethical values in the internal/external security continuum in Europe
European Commission 7th Framework Programme

CERS
CENTRE FOR EUROPEAN POLICY STUDIES
Thinking ahead for Europe

INEX Policy Brief

The EU and the European Security Industry
Questioning the 'Public-Private Dialogue'

Didier Bigo
& Julien Jeandesboz
No. 5 / February 2010

Research for this Policy Brief was conducted in the context of INEX, a three-year project on converging and conflicting ethical values in the internal/external security continuum in Europe, funded by the Security Programme of DG Enterprise of the European Commission's Seventh Framework Programme. The project is coordinated by PRIO, International Peace Research Institute in Oslo. For more information about the project, please visit: www.inexproject.eu

SEVENTH FRAMEWORK PROGRAMME

PRIO
International Peace Research Institute, Oslo



Critique

- EU Security Research programme appears to support the creation of a surveillance society
- Ethical issues (when mentioned) are narrowly defined and under researched
- Recent positive developments
 - *Inclusion of non-technology oriented projects, such as radicalisation and restorative justice*
 - *Crime and insecurity covered—including domestic violence*
 - *Prevention also starting to be covered within the programme*

However, traditional EU security discourse still dominates



Critique

However, traditional EU security discourse still dominates

- New topics tend to be considered within a technology / defence-oriented discourse
- *Crime is referred to as 'petty crime'*
- *Focus on robbery, burglary and violence—whereas vandalism, antisocial behaviour and feelings of insecurity are also covered within crime prevention*
- *Calls are prescriptive and conservative*



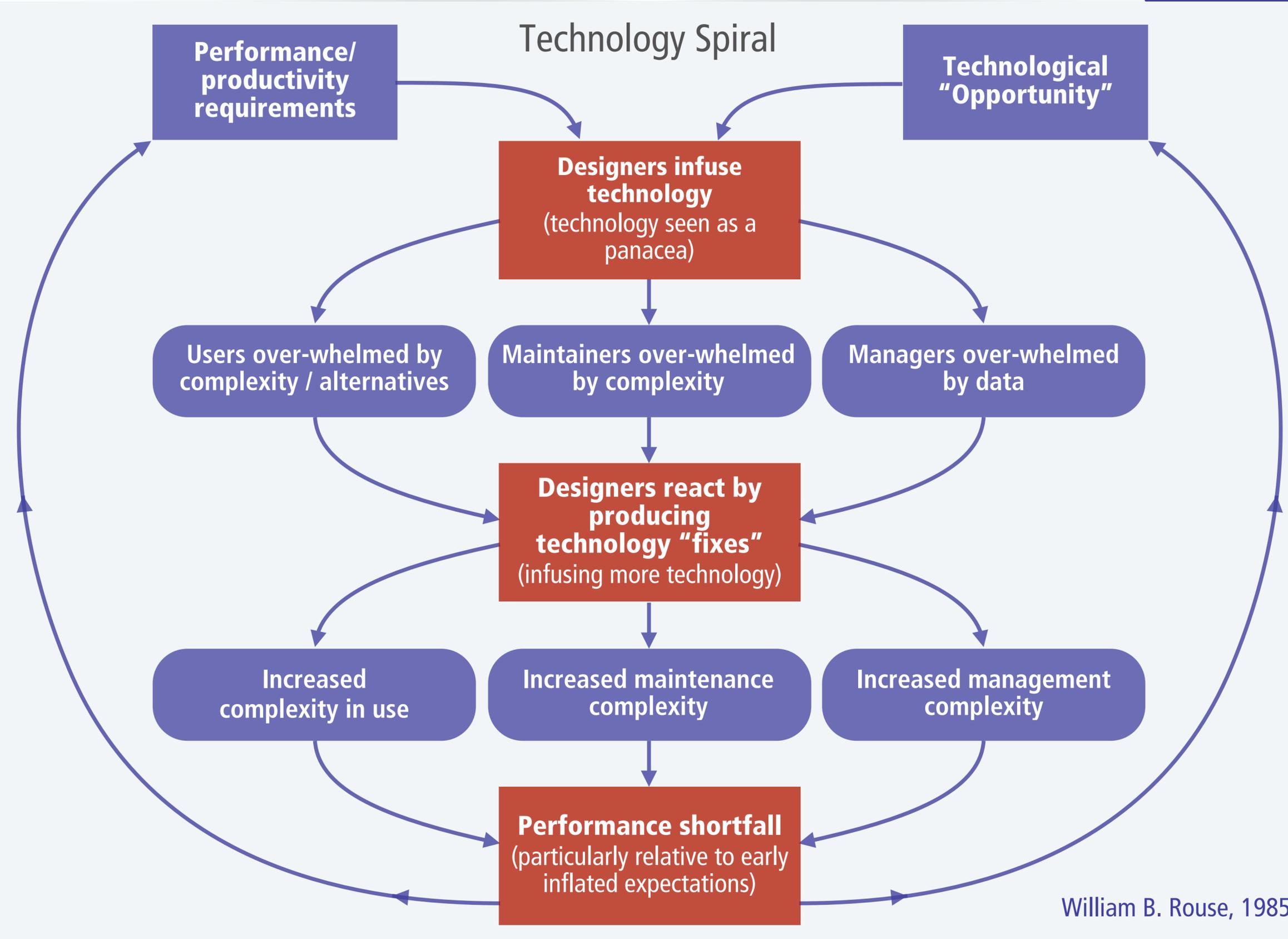
A different approach?

An alternative vision for European Security Research funding

- Innovative and appropriate use of technology
- *Currently technology-led, but tries to promote technology that often does not suit the user or context*
- *Technology should not drive the security research process*



A differ



William B. Rouse, 1985



A different approach?

- An alternative vision for European Security Research funding
- Innovative and appropriate use of technology
- *Currently technology-led, but tries to promote technology that often does not suit the user or context*
- *Technology should not drive the security research process*
- *Human-centred and appropriately designed technology can create and support security*
- *There do exist truly human-centred and innovative uses of technology*

For example, Callisto confidential sexual assault reporting platform for students





Practice-based innovation in preventing, investigating & mitigating high-impact petty crime



This project has received funding from the European Union Horizon 2020 Research & Innovation Programme under grant agreement No. 787100



Who is CCI?

Six Law Enforcement Agencies

- The National Police of the Netherlands (NL) – **NPN**
- Greater Manchester Police (UK) – **GMP**
- Politsei- ja Piirivalveamet (Estonian Police & Border Guard)(EE) – **PJP**
- Policia Municipal de Lisboa (Municipal Police of Lisbon)(PT) – **CML**
- Landeskriminalamt Niedersachsen (State Criminal Police of Lower Saxony)(DE) – **LKA**
- Departament d'Interior – Generalitat de Catalunya (ES) – **INT**



Who is CCI? – the consortium



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 787100



Introduction to CCI

Objectives

- To enable LEAs and security policymakers to adopt a preventative, evidence-based and sustainable approach to tackling **high-impact petty crime**
- To support six LEAs in researching and innovating practical, evidence-based **tools** that meet **end-users needs** and **operational contexts**



Introduction to CCI

Four 'Focus Areas'

- Predictive Policing – **NPN & LKA**
- Community Policing – **GMP & CML**
- Crime Prevention through Urban Design & Planning (CP-UDP) – **PJP & GMP**
- Measuring & mitigating citizens' feelings of insecurity – **INT & LKA**

NOTE: *These Focus Areas were not specified by the EU or by the project coordinator — they were selected by the LEAs*



Cutting Crime Impact

*Innovating security solutions with
human-centred design*

Part One

Community Policing

– the core of policing by consent



Community Policing – *the theory*

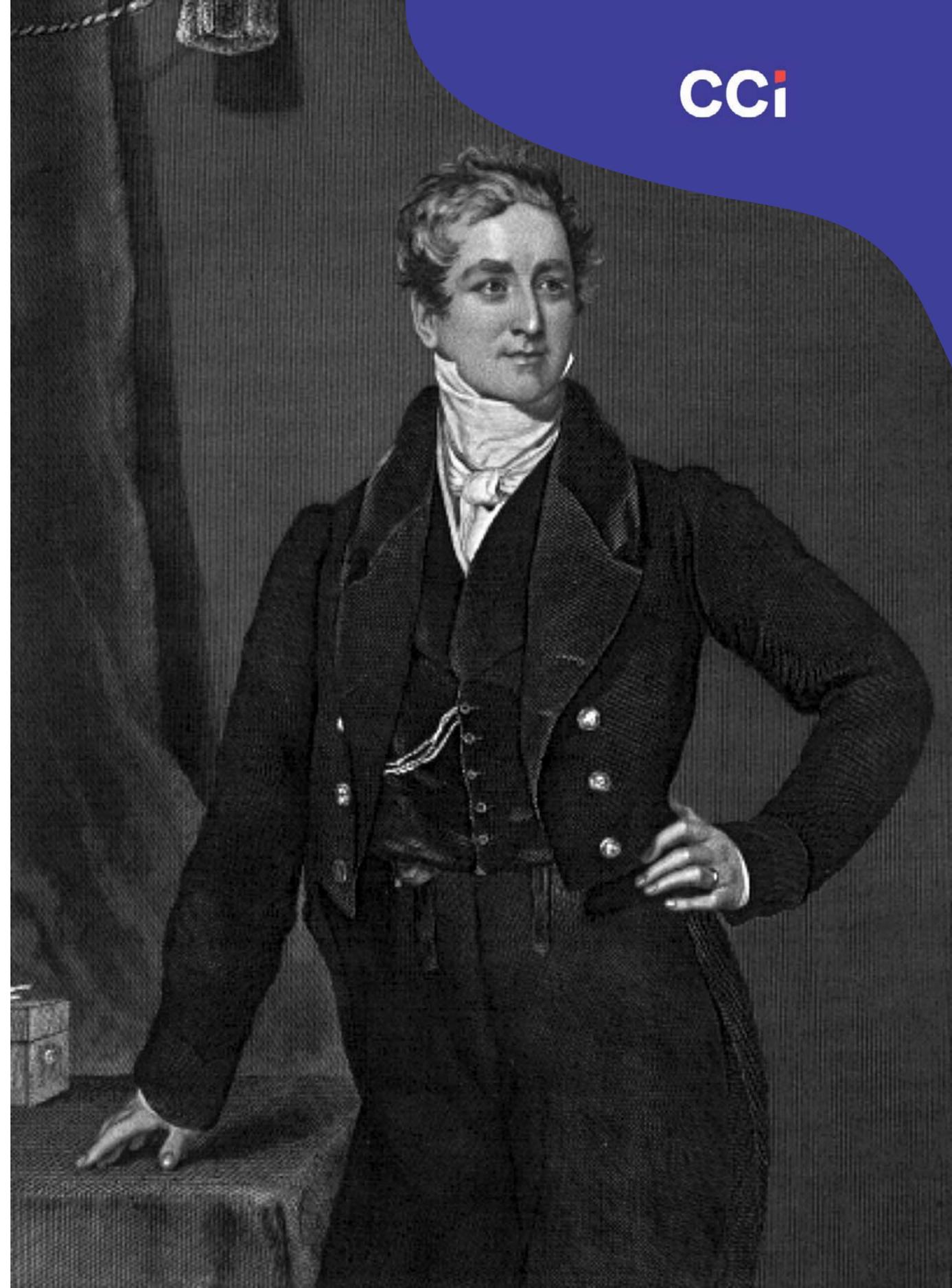
- Sometimes referred to as ‘**neighbourhood policing**’ or ‘**proximity policing**’, Community policing is a philosophy that promotes organisational strategies that support the systematic use of partnerships and problem-solving techniques to proactively address the immediate conditions that give rise to public safety issues such as crime, social disorder, and fear of crime.
- Community policing is delivered by:
 - *Community police officers patrolling a territory or neighbourhood*
 - *Working in partnership with key stakeholders*



Community Policing – UK background

- Sir Robert Peel – Metropolitan Police Act of 1829
- *Parish constables and watchmen patrolling streets of London formalised into a ‘New Police’*
- *Instructed to prevent crime by patrolling on foot, checking the security of buildings and apprehending ‘suspicious persons’*
- *Adopted a ‘beat’ structure, with each constable responsible for a small geographic patch*
- *This ‘jigsaw’ structure provided the basic framework for British Policing*

SOURCE: Higgins, A. (2018) *The Future of Neighbourhood Policing*.
The Police Foundation: London, UK.



Community Policing – *Peelian principles*

- Nine principles set out in the ‘General Instructions’ issued to every new police officer from 1829
- *Principles likely devised by the first Commissioners of Police, Charles Rowan and Richard Mayne*



Community Policing – *Peelian principles*

- ❖ To prevent crime and disorder, as an alternative to their repression by military force and severity of legal punishment.
- ❖ To recognise always that the power of the police to fulfil their functions and duties is dependent on public approval of their existence, actions and behaviour, and on their ability to secure and maintain public respect.
- ❖ To recognise always that to secure and maintain the respect and approval of the public means also the securing of the willing co-operation of the public in the task of securing observance of laws.
- ❖ To recognise always that the extent to which the co-operation of the public can be secured diminishes proportionately the necessity of the use of physical force and compulsion for achieving police objectives.
- ❖ To seek and preserve public favour, not by pandering to public opinion, but by constantly demonstrating absolutely impartial service to law, in complete independence of policy, and without regard to the justice or injustice of the substance of individual laws, by ready offering of individual service and friendship to all members of the public without regard to their wealth or social standing, by ready exercise of courtesy and friendly good humour, and by ready offering of individual sacrifice in protecting and preserving life.
- ❖ To use physical force only when the exercise of persuasion, advice and warning is found to be insufficient to obtain public co-operation to an extent necessary to secure observance of law or to restore order, and to use only the minimum degree of physical force which is necessary on any particular occasion for achieving a police objective.
- ❖ To maintain at all times a relationship with the public that gives reality to the historic tradition that the police are the public and that the public are the police, the police being only members of the public who are paid to give full-time attention to duties which are incumbent on every citizen in the interests of community welfare and existence.
- ❖ To recognise always the need for strict adherence to police-executive functions, and to refrain from even seeming to usurp the powers of the judiciary of avenging individuals or the State, and of authoritatively judging guilt and punishing the guilty.
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Community Policing – *the background*

- The style of policing the beat model encouraged has been celebrated as uniquely British and uniquely consensual, from at least the 1930s to the present day

SOURCE: Higgins, A. (2018) *The Future of Neighbourhood Policing*. The Police Foundation: London, UK.

- *Locally focused*
- *Preventative (theoretically)*
- *Delivered by consistent, familiar, uniformed civilians*



Community Policing – *by consent*

- ‘Consent of the governed’ refers to the idea that a government's legitimacy and moral right to use state power is only justified and lawful when consented to by the people or society over which that political power is exercised.

SOURCE: https://en.wikipedia.org/wiki/Consent_of_the_governed

- *Article 21 of the United Nations' 1948 Universal Declaration of Human Rights states that “The will of the people shall be the basis of the authority of government”*



Community Policing – *In practice*

Europe contains multiple political histories impacting policing

- In Spain, Community Policing is a newer approach, with democratisation starting after the death of the dictator Francisco Franco (November 1975)
- In Portugal, dictatorship came to end in 1970

Policing impacted by European conflicts

- For example, perceptions of policing affected by WWII
 - *Impact of occupation / perceived collaboration*



Community Policing – *In UK practice*

- UK a stable liberal democracy since c.1689 Bill of Rights
- Policing reform in nineteenth century by Robert Peel
- Long history of Community (Neighbourhood) Policing
- *Citizens expect to see police officers patrolling streets on foot*



Community Policing – *The PCSO*

- Police Community Support Officers (PCSOs)
 - *Introduced in UK in 2002*
 - *Focused on reducing crime and antisocial behaviour*



Community Policing – *The PCSO*

- Police Community Support Officers (PCSOs)
 - *Introduced in UK in 2002*
 - *Focused on reducing crime and antisocial behaviour*
- Limited police powers
 - *No powers of arrest*
 - *Cannot formerly interview or process prisoners*
 - *Cannot investigate crimes*
- Different uniform
 - *Do not normally wear the traditional Custodian helmet*



Community Policing – *In practice*

- Community Policing is primarily delivered by dedicated Community / Neighbourhood Police Officers
 - *Patrolling on foot, by bike and/or in vehicles*
 - *Engaging with citizens and local businesses*
 - *Working in partnership with key stakeholders to address community problems*



Community Policing *vs responsive policing*

- Police officers often must respond to incidents or emergencies
- Focused on 'catching criminals'
- *If patrolling, do so in vehicles*
- *Difficult to commit to meetings with key stakeholders as expected to respond to incidents*



Community Policing – *tensions*

- Austerity budget cuts since 2010 have reduced officer numbers
- Forces have had to focus on immediate policing priorities to manage crime levels
- Less resource to focus on strategic approaches like community policing
 - *Police beat areas enlarged to cope with fewer officers*
 - *Difficulty in patrolling on foot due to increased beat size*
 - *PCSOs diverted from neighbourhood patrolling to support other police functions*
 - *At least one force has eliminated the PCSO role altogether*



Improving Community Policing

- Community Policing is necessarily human-centred
- Improvement requires supporting meaningful community engagement activities
 - *Investing in officers ‘on the beat’ patrolling communities*
 - *Valuing and sustaining relationships with community and partner agency stakeholders*
- Need to recognise potential for Community Policing to be undermined by technology solutions
- Don't want to inadvertently “Kill the goose that lays the golden egg”



Improving Community Policing

- Don't want to inadvertently “Kill the goose that lays the golden egg”

The golden egg being:

- *Criminal intelligence*
- *Counter Terrorism intelligence (e.g. counter radicalisation)*
- *Reduced delinquency — through improved engagement with young people*
- *Increased trust in policing — through improved engagement with, for example, hard to reach communities*

So how *should* you develop tools to support Community Policing?



Cutting Crime Impact

*Innovating security solutions with
human-centred design*

Part Two

Developing truly supportive Policing tools
– The CCI approach



The “Design Approach”?

- Broad definition of 'design'



The “Design Approach”?

- Broad definition



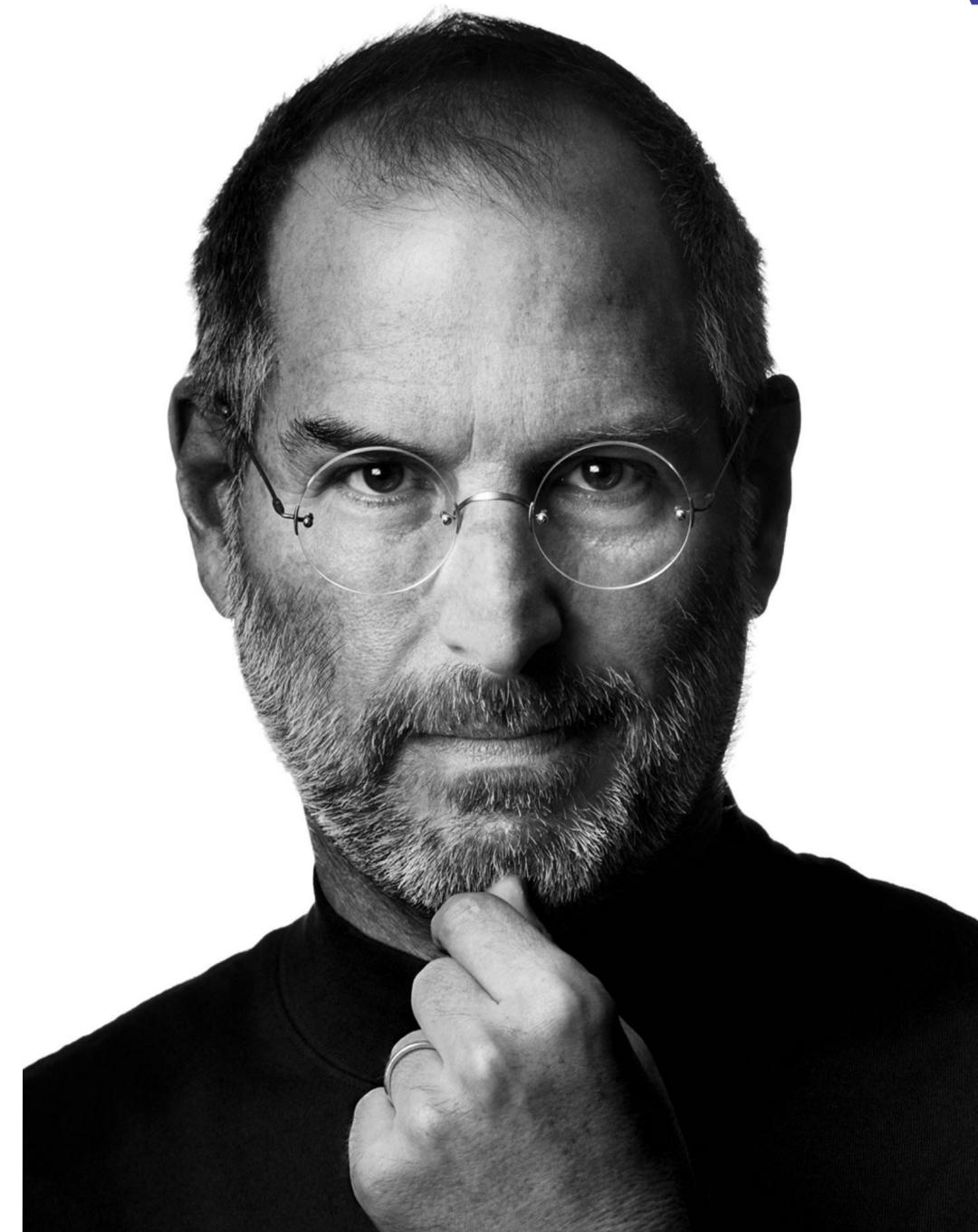
The “Design Approach”?

- Broad definition of 'design'

“Design is not just what it looks like and feels like... Design is how it works.”

Steve Jobs

- Includes: *Products; services; environments; communications; systems; and processes*
- Design approaches and theories:
 - *User-centred design*
 - *Systems design*
 - *Design Thinking*
 - *Human-Centred Design*



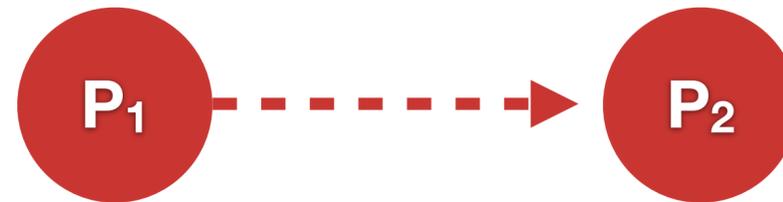
The “Design Approach”?

- CCI focuses on **innovation** and ‘end user-centredness’
- CCI focuses on **problem framing** and optimising **solution adoption**
- **Innovation** in the context of design discipline
- *Industrial design; product design; service design; process design; communication design*



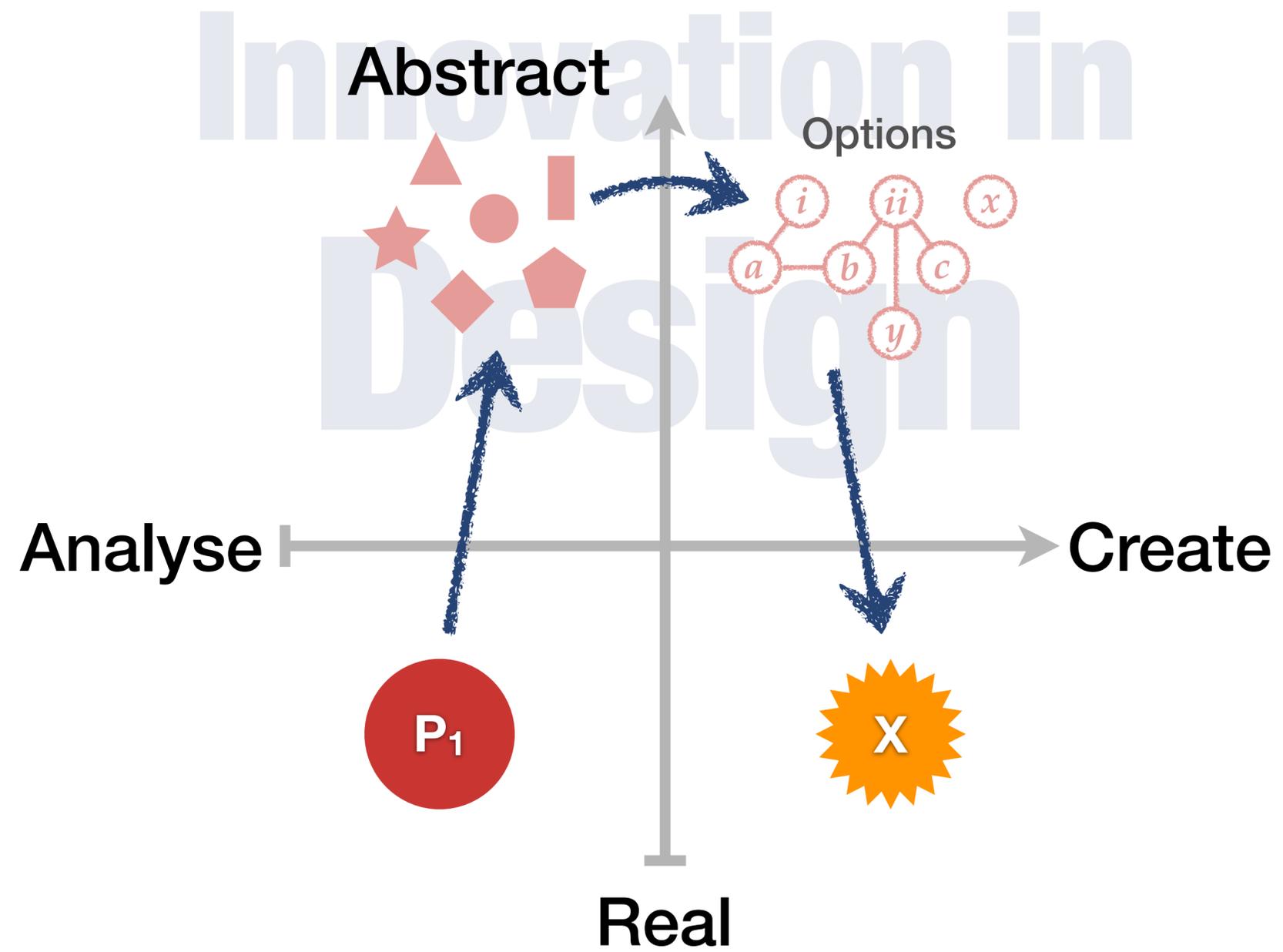
Innovation in Engineering/NPD

—————→ Create



Analyse





SOURCE: Prof. Patrick Whitney, Illinois Institute of Technology



CCI project process

- Design research process
- *Action research*

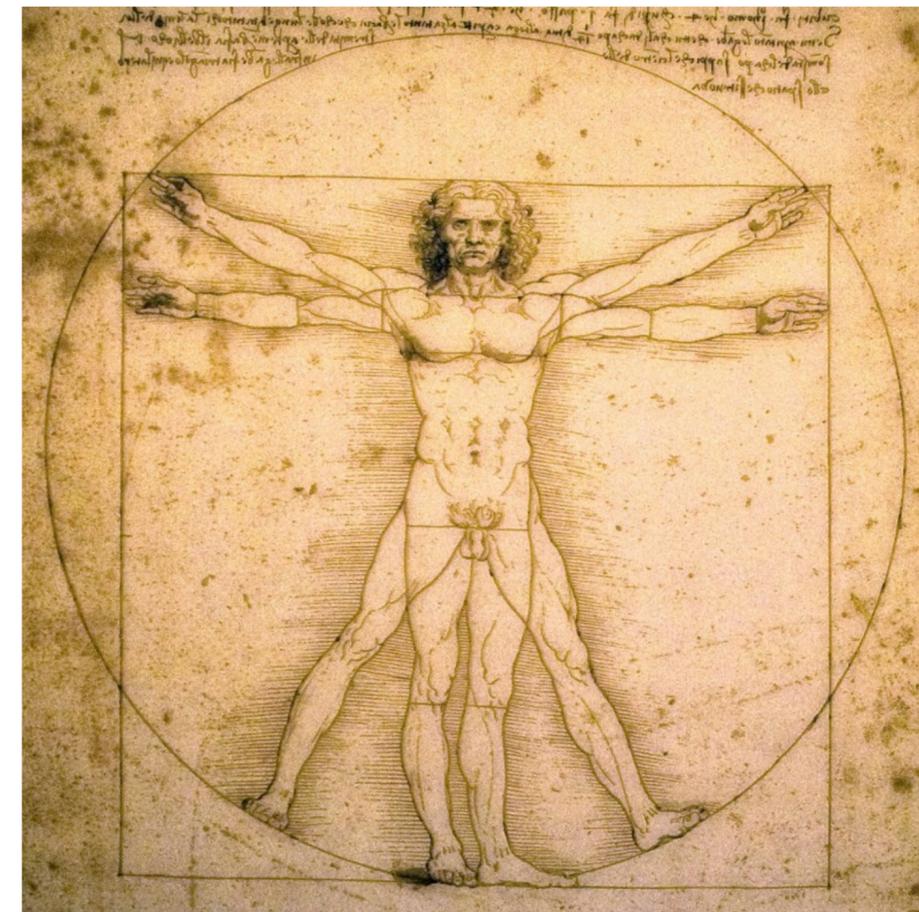
Research initiated to solve an immediate problem.

Reflective process of progressive problem solving led by individuals working with others in teams or as part of a "community of practice" to improve the way they address issues and solve problem



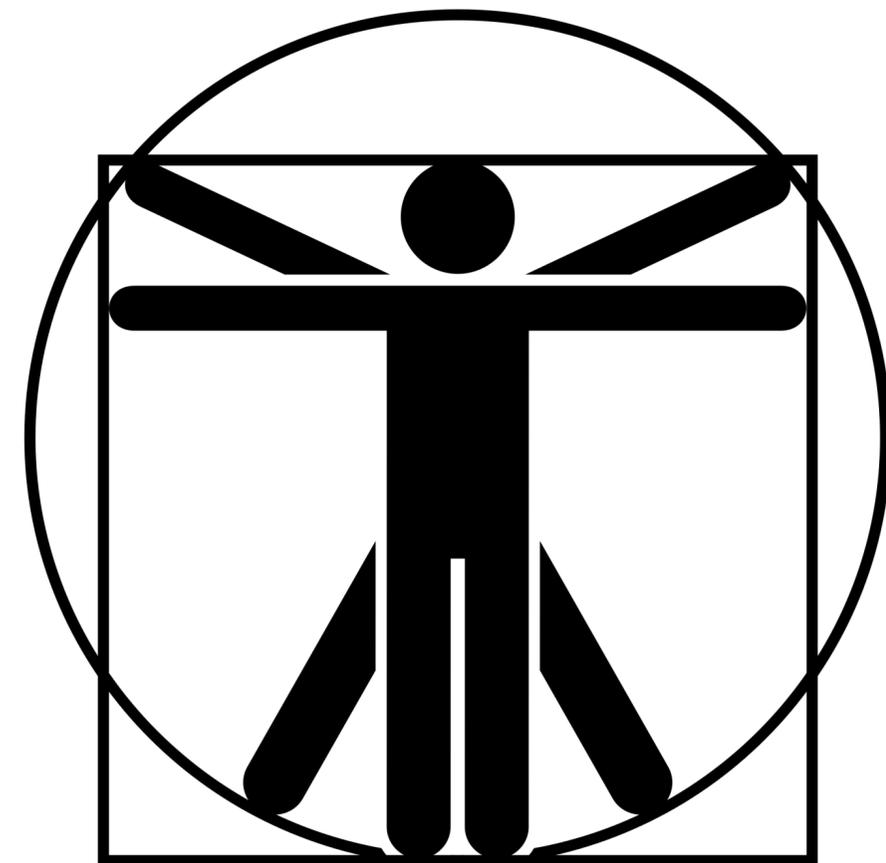
Human-centred design

- Places the human being at the centre of the design process
- *Focuses on humans within a designed system*
- Developed in the systems design field
- *In response to problems caused by designs that were overly focused on technology*



Human-centred design

- Avoids Technology Spiral by concentrating on the people throughout a system/product design
 - *The nature of their roles and needs*
 - *How their roles can be supported*
 - *How their needs can be met*
- Human-centred objectives rather than technology drive the design process



Human-centred design

- Human-centred objectives rather than technology drive the design process
 1. Enhance human abilities
 - *Human abilities should be identified, understood and cultivated*
 2. Overcome human limitations
 - *Identify these and devise compensatory mechanisms / processes*
 3. Foster human acceptance
 - *Understand and address preferences, concerns and values*

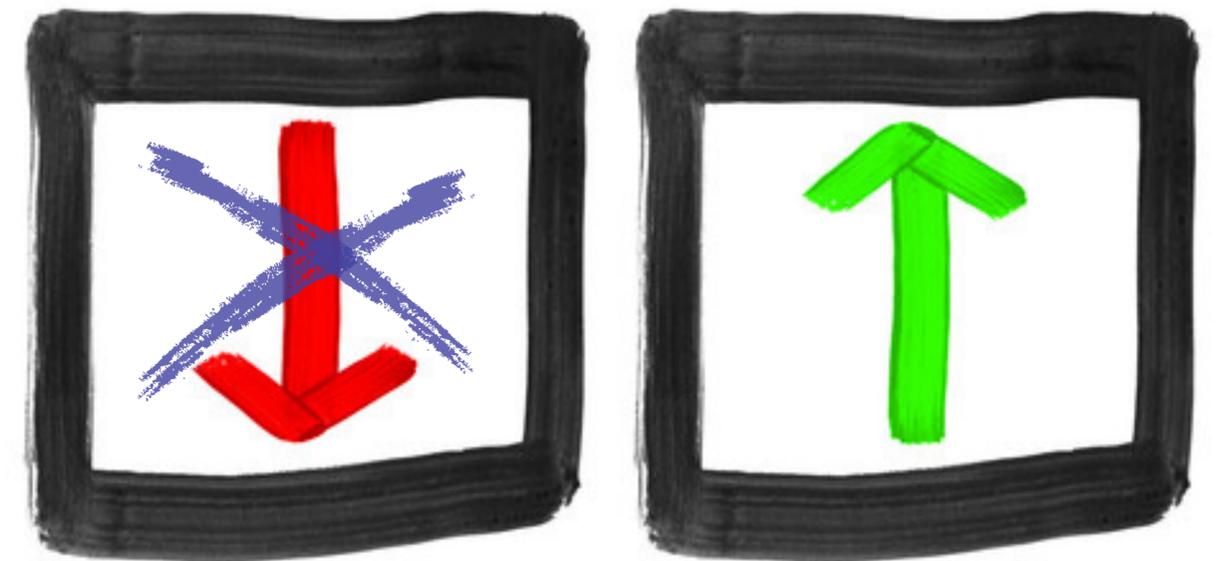


Human-centred design

- Human-centred design ‘bottom-up’ rather than ‘top-down’
- Supports problem definition and ‘re-framing’

“We fail more often because we solve the wrong problem than because we get the wrong solution to the right problem.”

Russell Lincoln Ackoff, *Redesigning the Future: A Systems Approach to Societal Problems*, 1974



Human-centred design

- Focuses on human capabilities, agency and responsibility and offers an alternative perspective

Example: What is the purpose of Predictive Policing?

*The purpose of “Predictive policing is the collection and analysis of data... for identification and... **prediction** of individuals or... **areas** with an increased probability of criminal activity to help developing **policing intervention** and prevention strategies and tactics.”*

SOURCE: Albert Meijer & Martijn Wessels, 2019, p. 3



Human-centred design

- Focuses on human capabilities, agency and responsibility and offers an alternative perspective

Example: What is the purpose of Predictive Policing?

- From a HCD perspective, at its basic level:

The purpose of a designed predictive policing system is to support the (human) police officers who are responsible for preventing and fighting crime.

- Such a design system cannot be wholly technology-centred
- *Technology is an enabler of human-centred objectives, rather than a panacea*

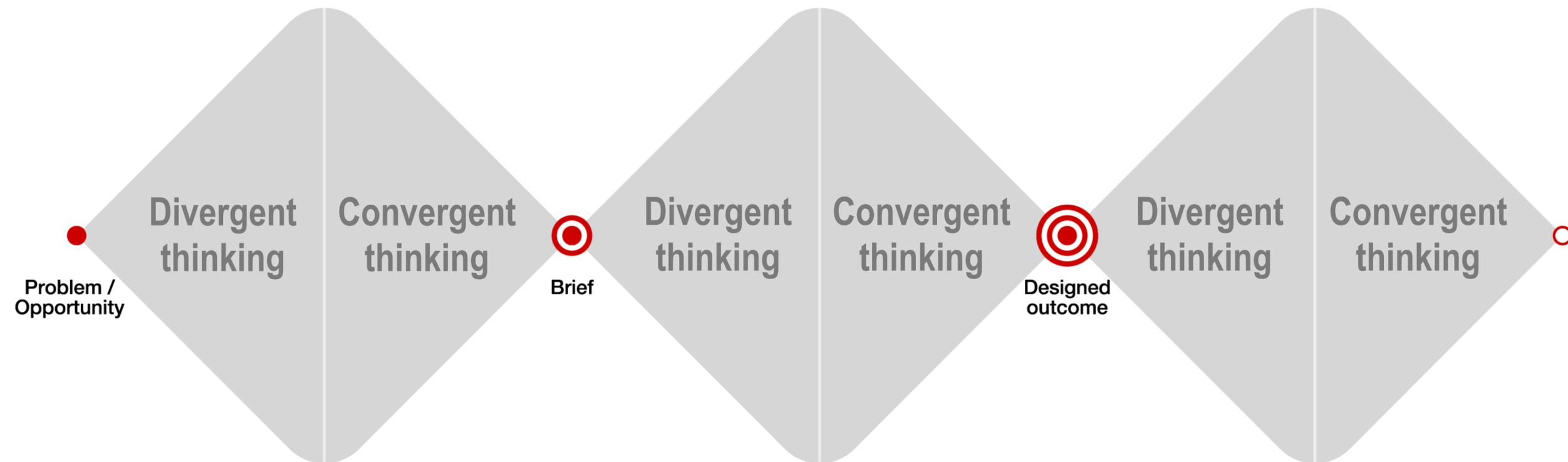


Human-centred design

- Clearly, the human-centred approach requires deeper understanding of users and contexts
- *To adopt the human-centred mind-set is to adopt an attitude that is:*



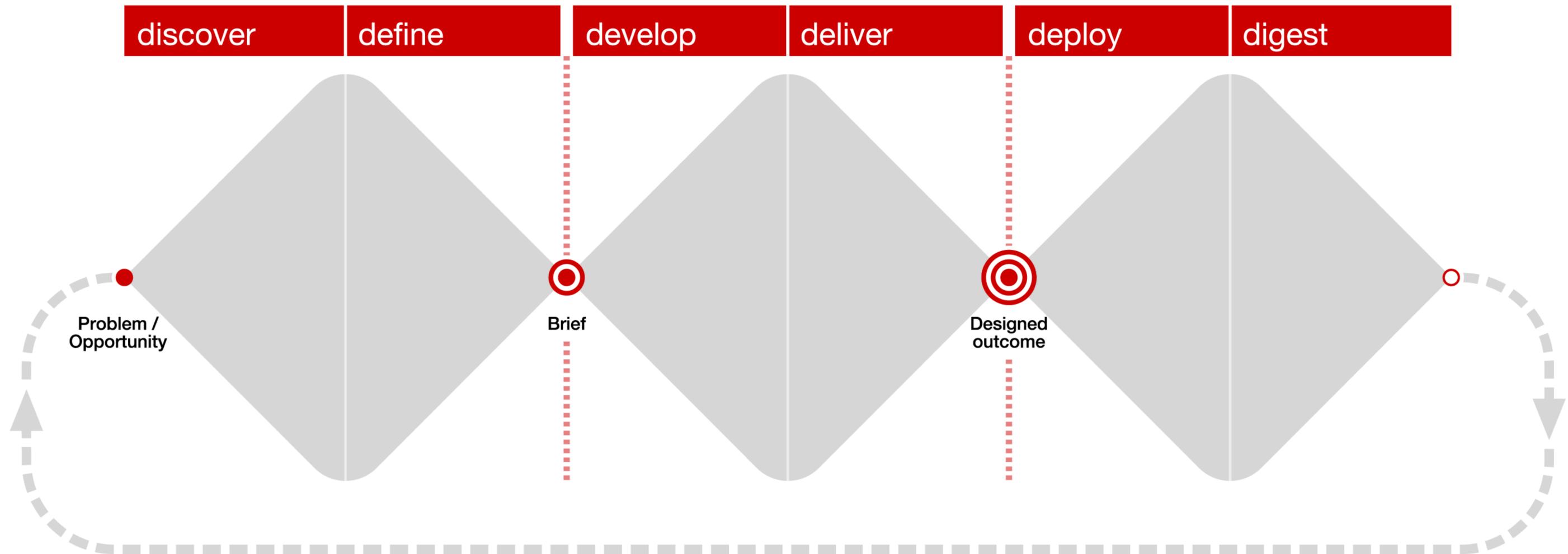
CCI project process — *Design process*



Source: Wootton & Davey, 2012



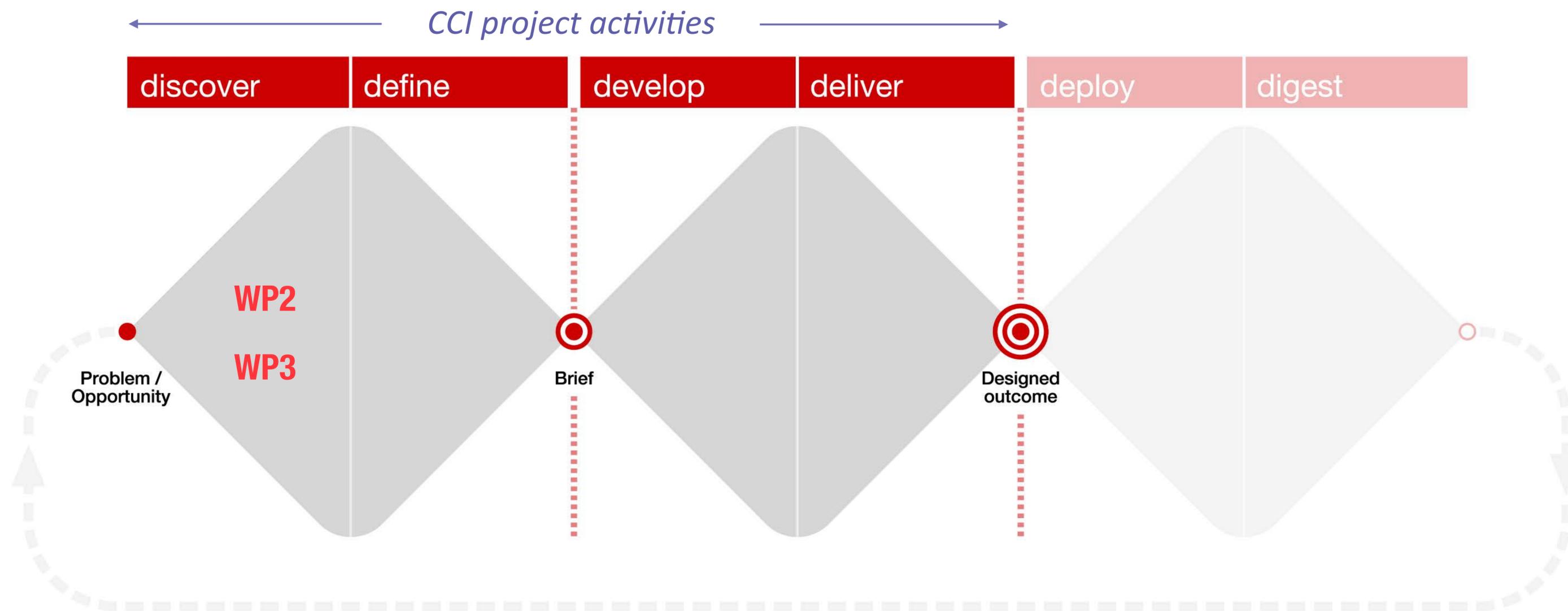
CCI project process — *Design process*



Source: Wootton & Davey, 2012



CCI project process — *Design process*



Source: Wootton & Davey, 2017

- Research to understand requirements and problem context



CCI project research

In researching each of the four Focus Areas, LEAs conducted:

- Interviews with relevant experts and practitioners
- Reviews of state of the art in each Focus Area
- Research into current end-user practice
- Reviews of research findings and emerging themes

CCI partners also conducted:

- Review of ethical, legal and social issues



CCI project research

In researching each of the four Focus Areas, LEAs conducted:

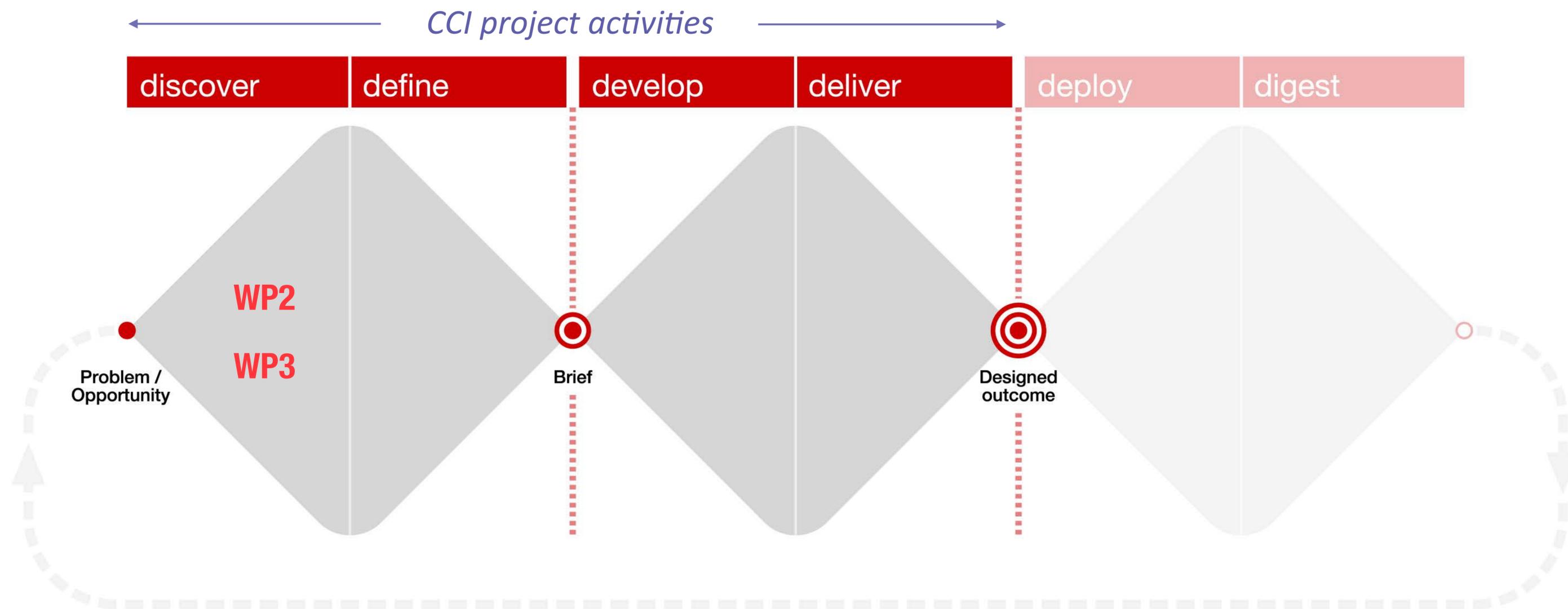
- Interviews with relevant experts and practitioners
- Reviews of state of the art in each Focus Area
- Research into current end-user practice
 - *The nature of their roles and needs*
 - *Preferences, concerns and values*
- Reviews of research findings and emerging themes

CCI partners also conducted:

- Review of ethical, legal and social issues



CCI project process — *Design process*

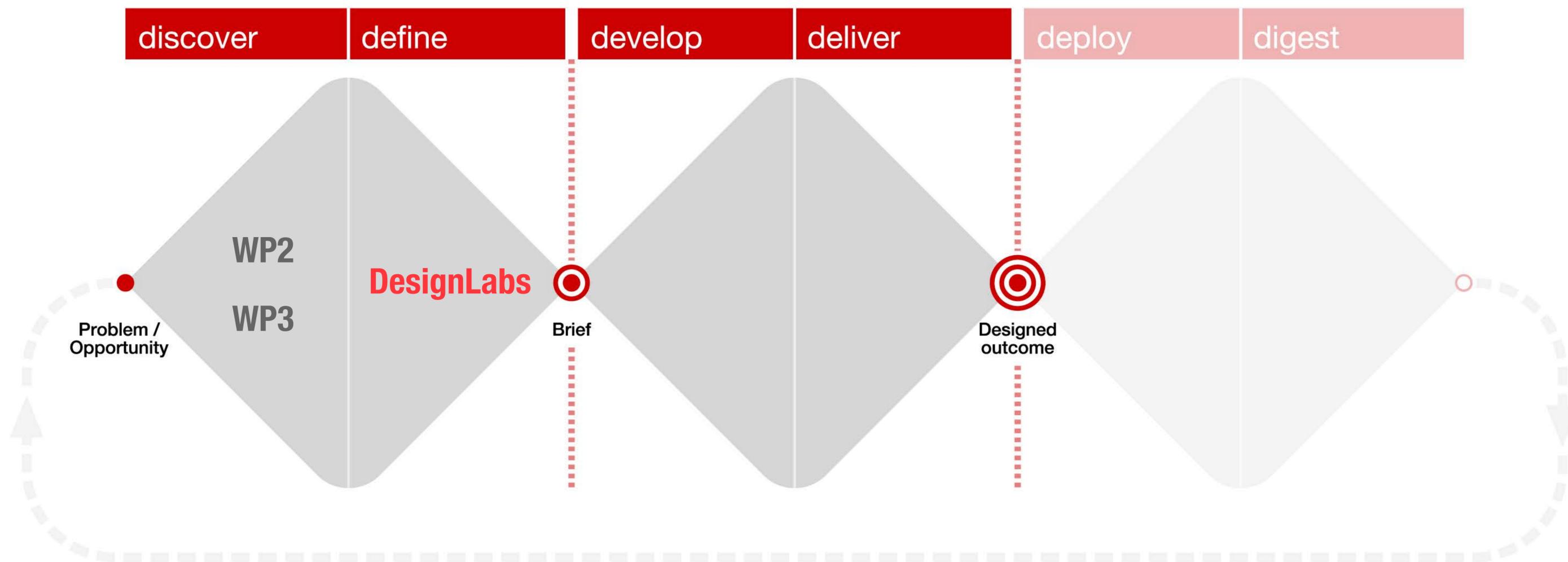


Source: Wootton & Davey, 2017

- Research to understand requirements and problem context



CCI project process — *Design process*

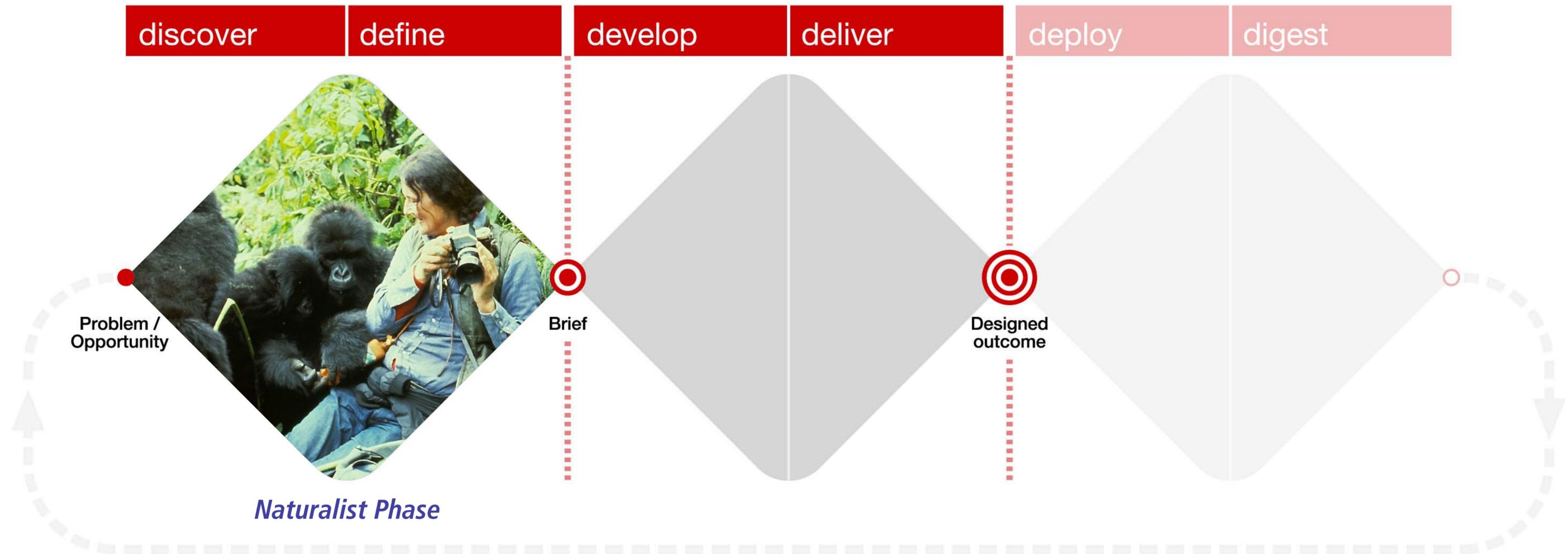


Source: Wootton & Davey, 2012

- Analyse findings, generate insight and define solutions



CCI project process — *Design process*

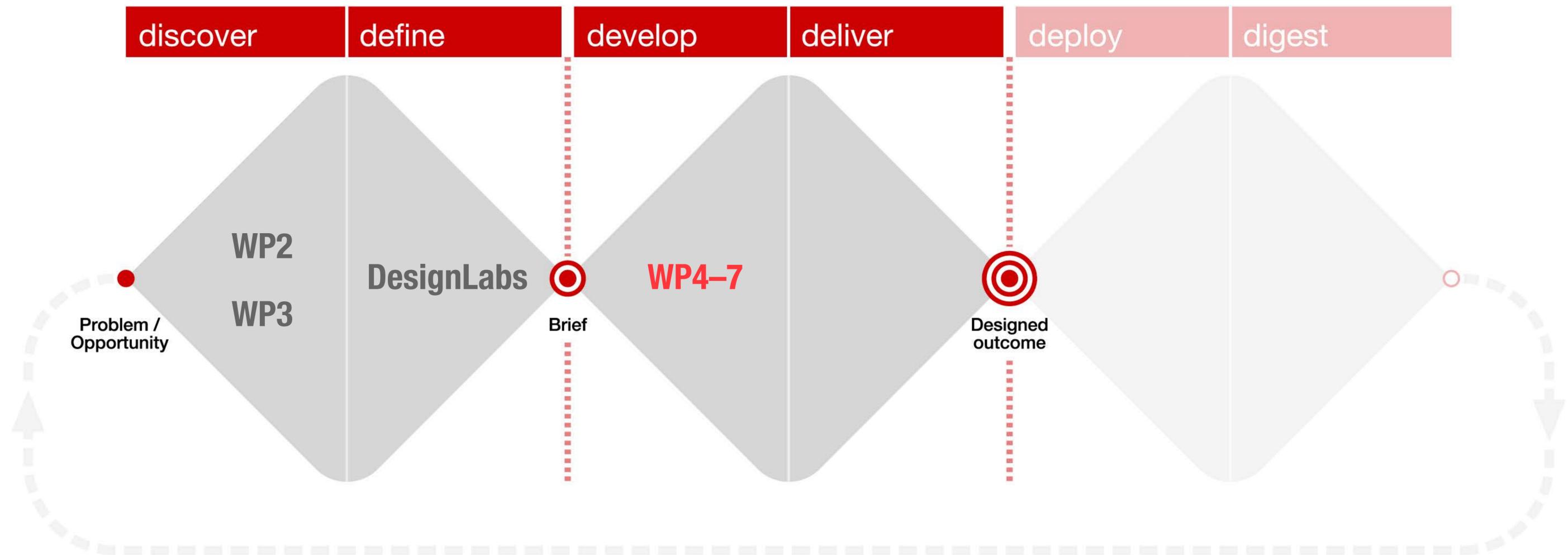


Source: Wootton & Davey, 2012

- Analyse findings, generate insight and define solutions



CCI project process — *Design process*

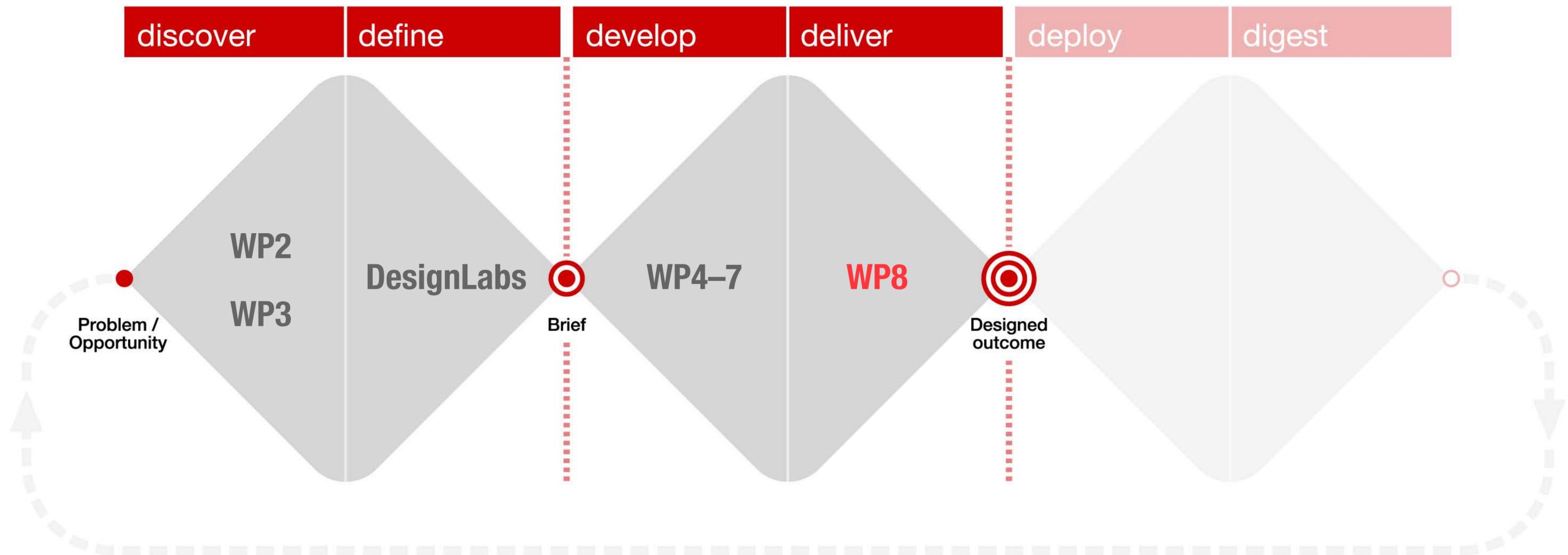


Source: Wootton & Davey, 2012

- Design, prototype and develop specifications for Tools



CCI project process — *Design process*

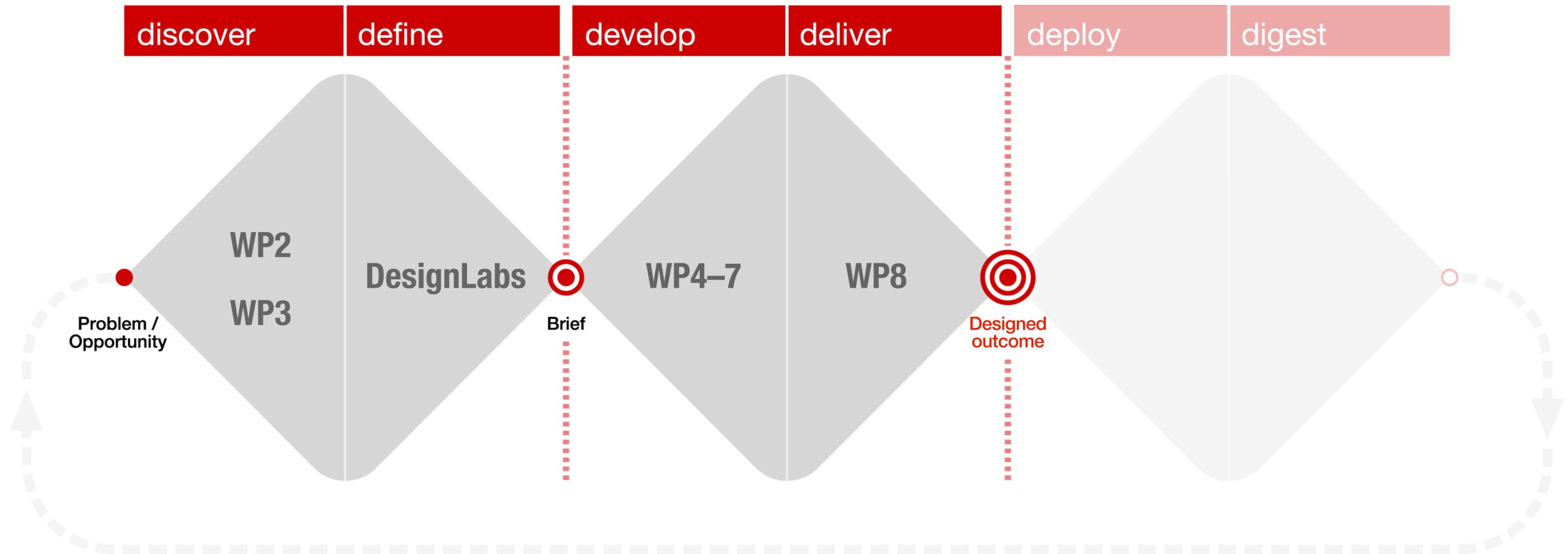


Source: Wootton & Davey, 2012

- Finalise, produce and demonstrate Tools



CCI project process — *Design process*

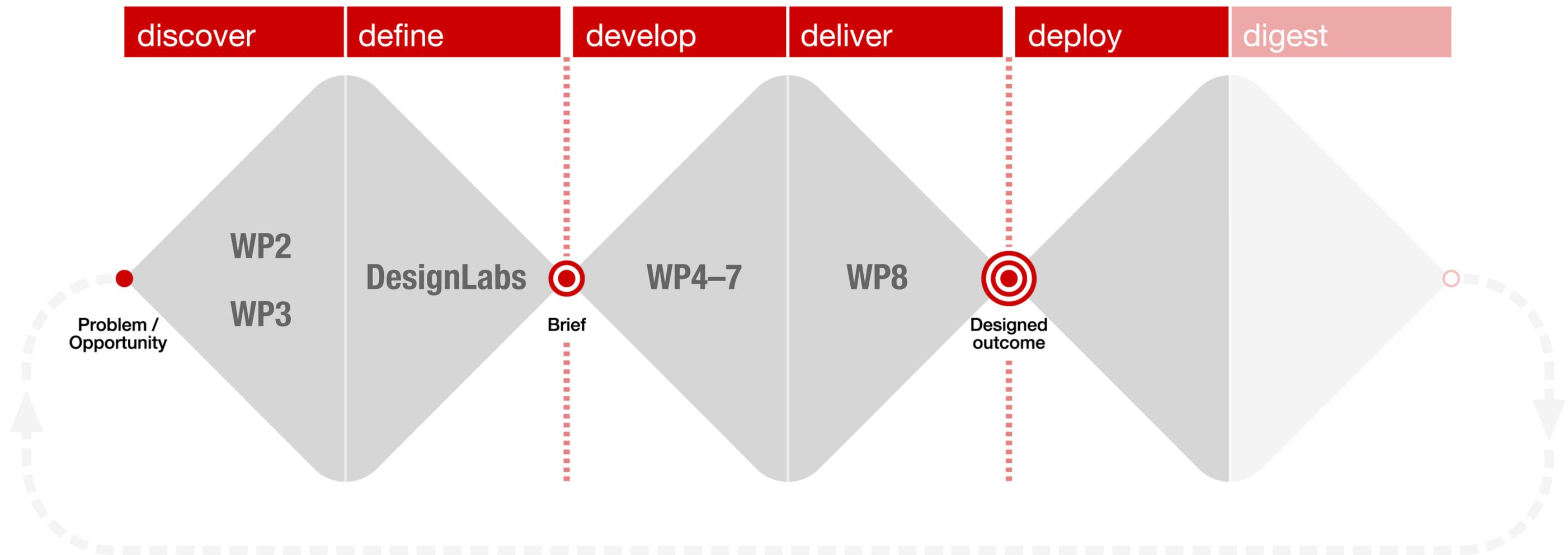


Source: Wootton & Davey, 2012

Designed outcome = CCI Tools



CCI project process — *Design process*



Source: Wootton & Davey, 2012

Next six months – **Tool implementation & deployment**



Importance of 'front end' Design research

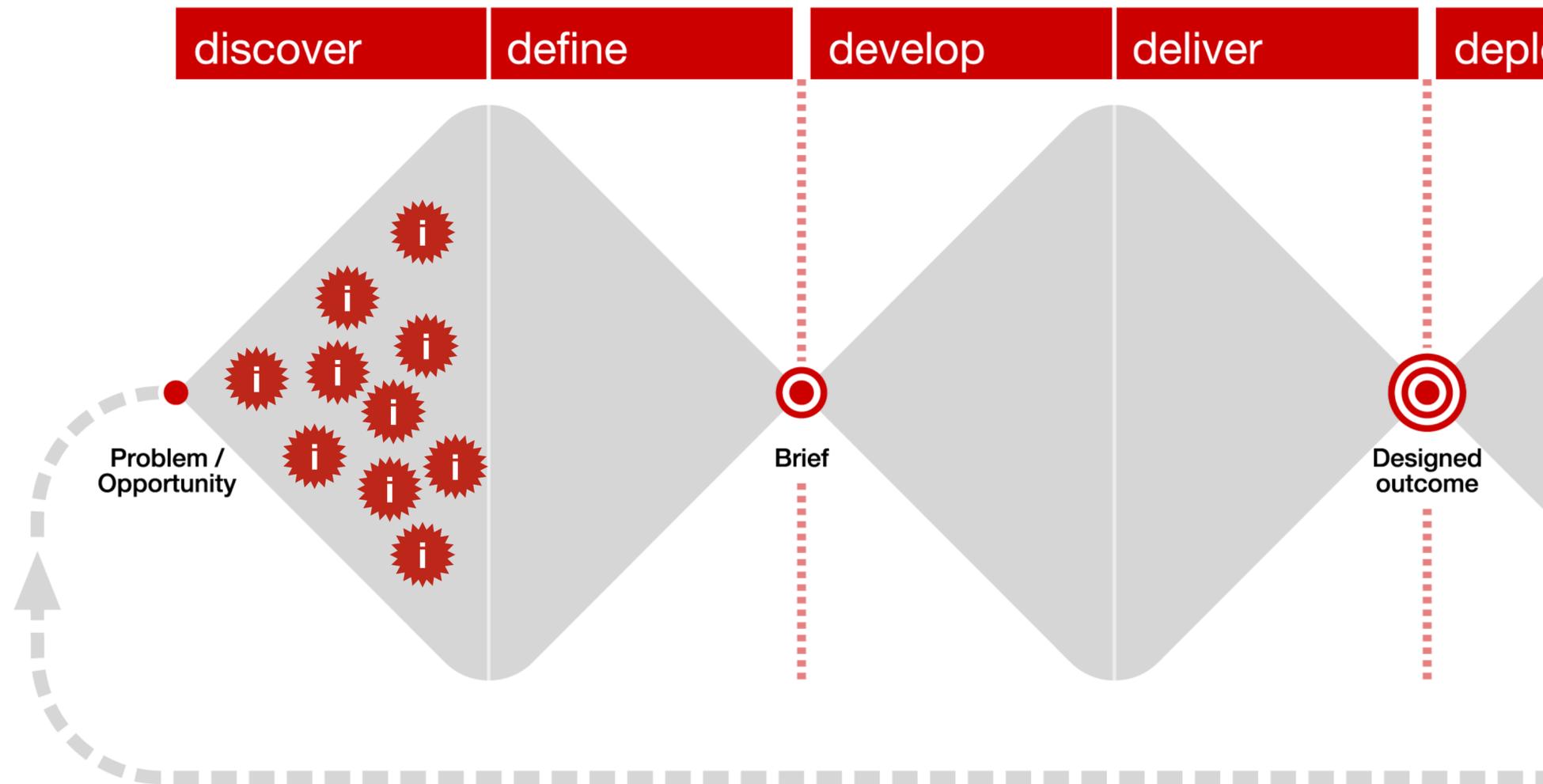
- Research should not be used to simply 'post-rationalise' ideas held at the outset (or your first idea)
 - *This is a waste of time, effort and opportunity*
- Design research enables us to
 - *'Frame' the focus areas and identify perspectives, problems and issues*
 - *Identify users and stakeholders related to an area of focus*
 - *Mine for **insight** to generate new thinking and novel ideas*







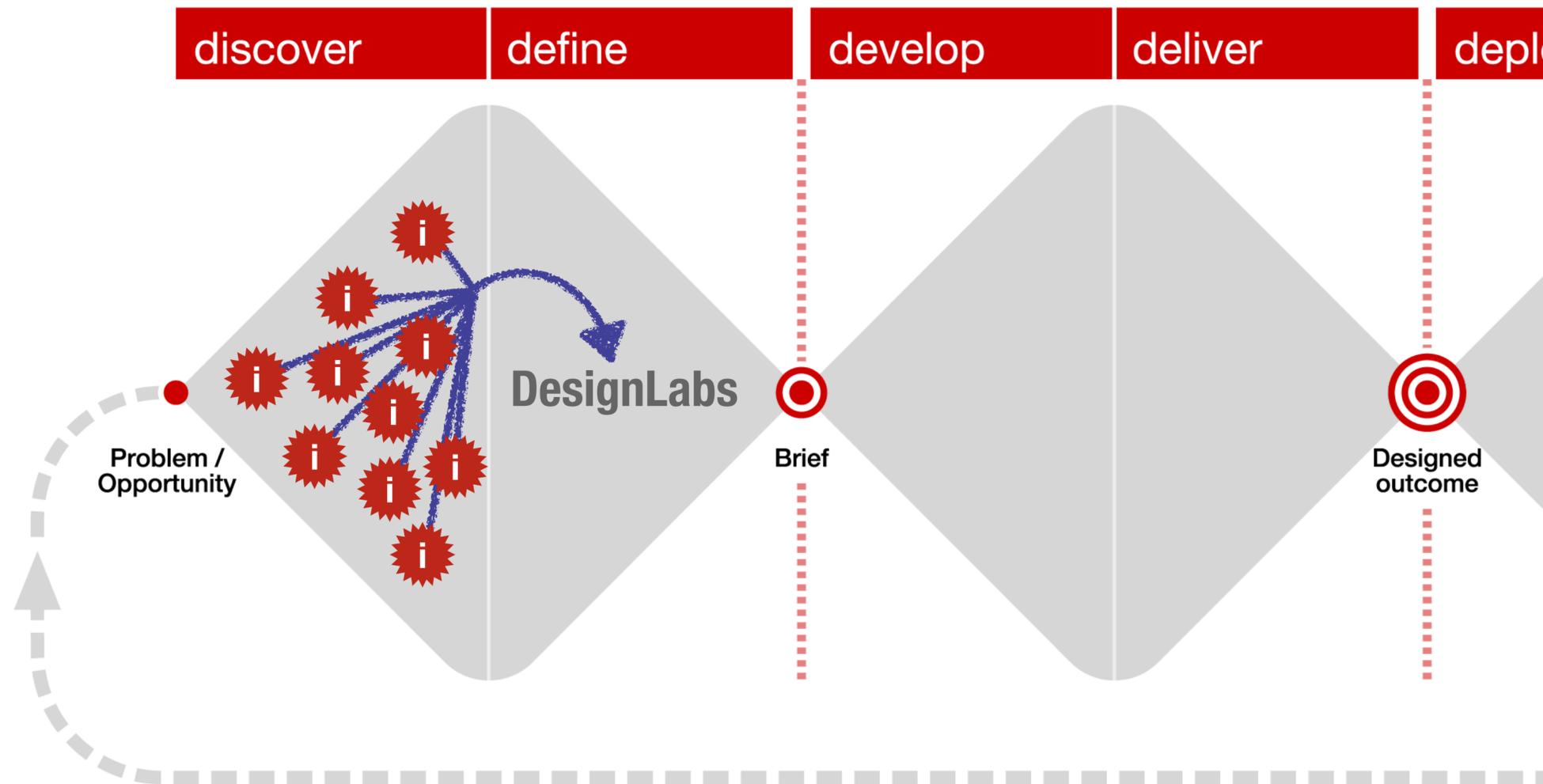
The challenge for CCI – Discover phase



- Generate “insight” for input to DesignLabs



The challenge for CCI – Discover phase



- Generate “insight” for input to DesignLabs



Cutting Crime Impact

*Innovating security solutions with
human-centred design*

Part Three

Lessons from the front line
– *Understanding end-users*



Policing solutions – Reflections

- Too many tools / solutions adopt a narrow concept of policing
 - *E.g. Predictive Policing — Officers seen as chess pieces to be ‘deployed efficiently’ around the board*
 - *Stems from militaristic thinking?*
- But this is not how policing actually works!



Fundamentally demotivating

Policing – *Self-Determination Theory*

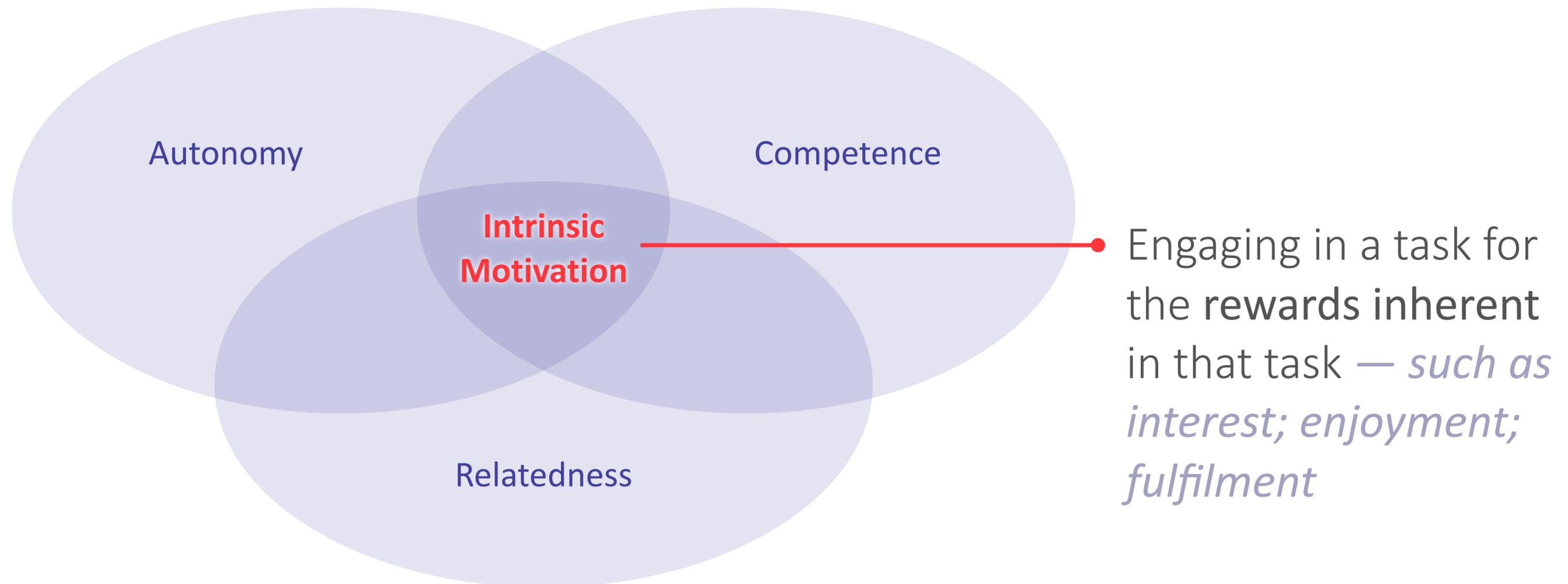
- Human wellbeing requires satisfaction of three psychological needs:
 - *Autonomy* – Need to be the causal agent in one's own life and act in harmony with one's integrated self
 - *Competence* – Seek to control the outcome and experience 'mastery'
 - *Relatedness* – Need to interact with, be connected to, and experience caring for others

SOURCE: Deci, E., & Ryan, R. (2000). The "What" and "Why" of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychological Inquiry*, 11(4), p. 227–268



Policing – *Self-Determination Theory*

- Meeting these needs creates Intrinsic Motivation



SOURCE: Deci, E., & Ryan, R. (2000). The "What" and "Why" of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychological Inquiry*, 11(4), p. 233



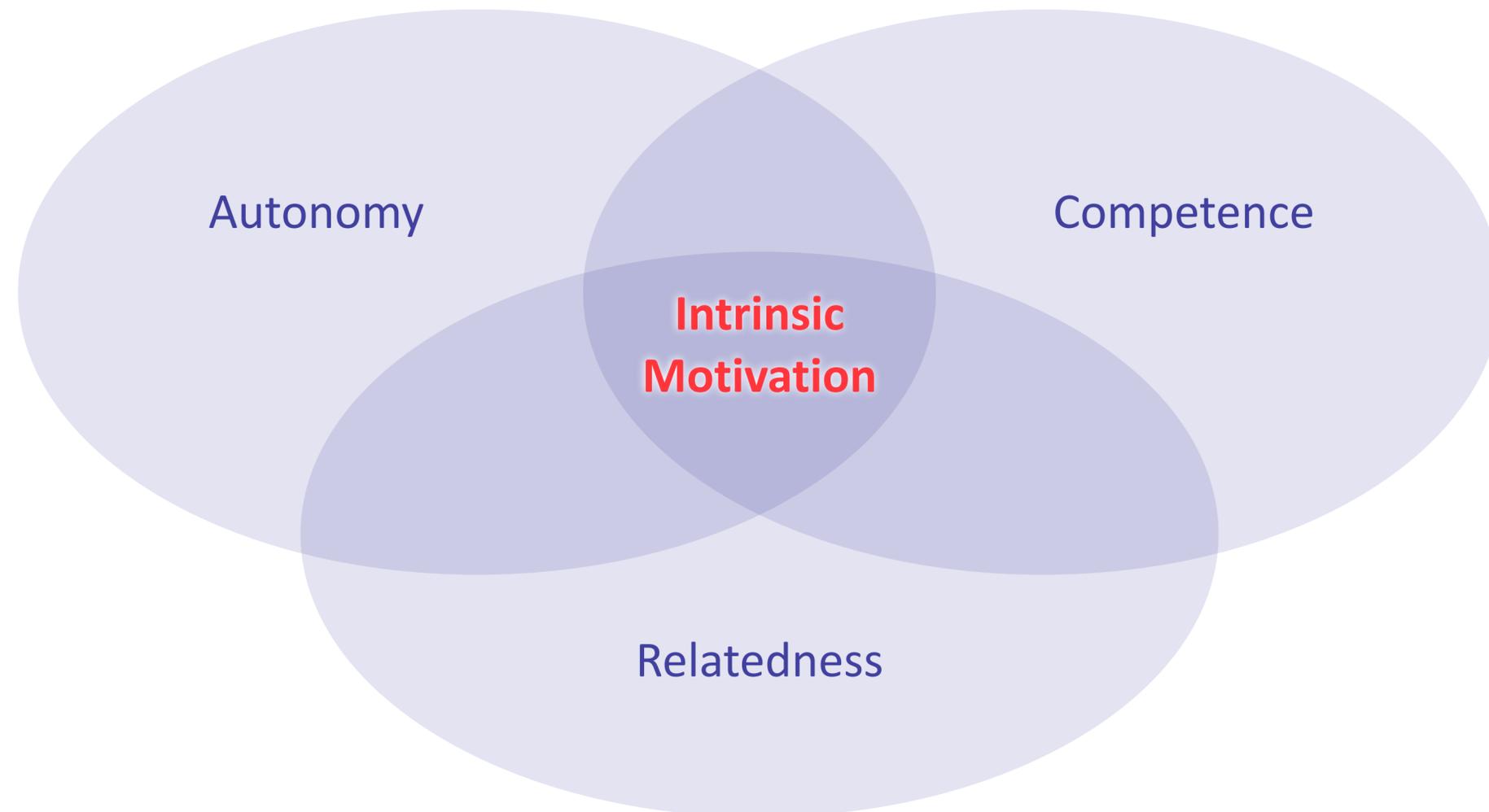
Policing – *Intrinsic motivation*

- Much policing relies on officers' Intrinsic Motivation
 - *In the autonomous nature of police work (e.g. officer discretion in use of police powers)*
 - *Forming meaningful relationships with communities and partners to address issues collaboratively*
 - *Focus on 'problem solving' and action-oriented working*
- Poorly designed and technology-centred solutions can negatively impact officers' intrinsic motivation
 - *Diminished concept of officers' role as 'pawns' rather than players*
 - *A focus on quantitative targets rather than qualitative outcomes*



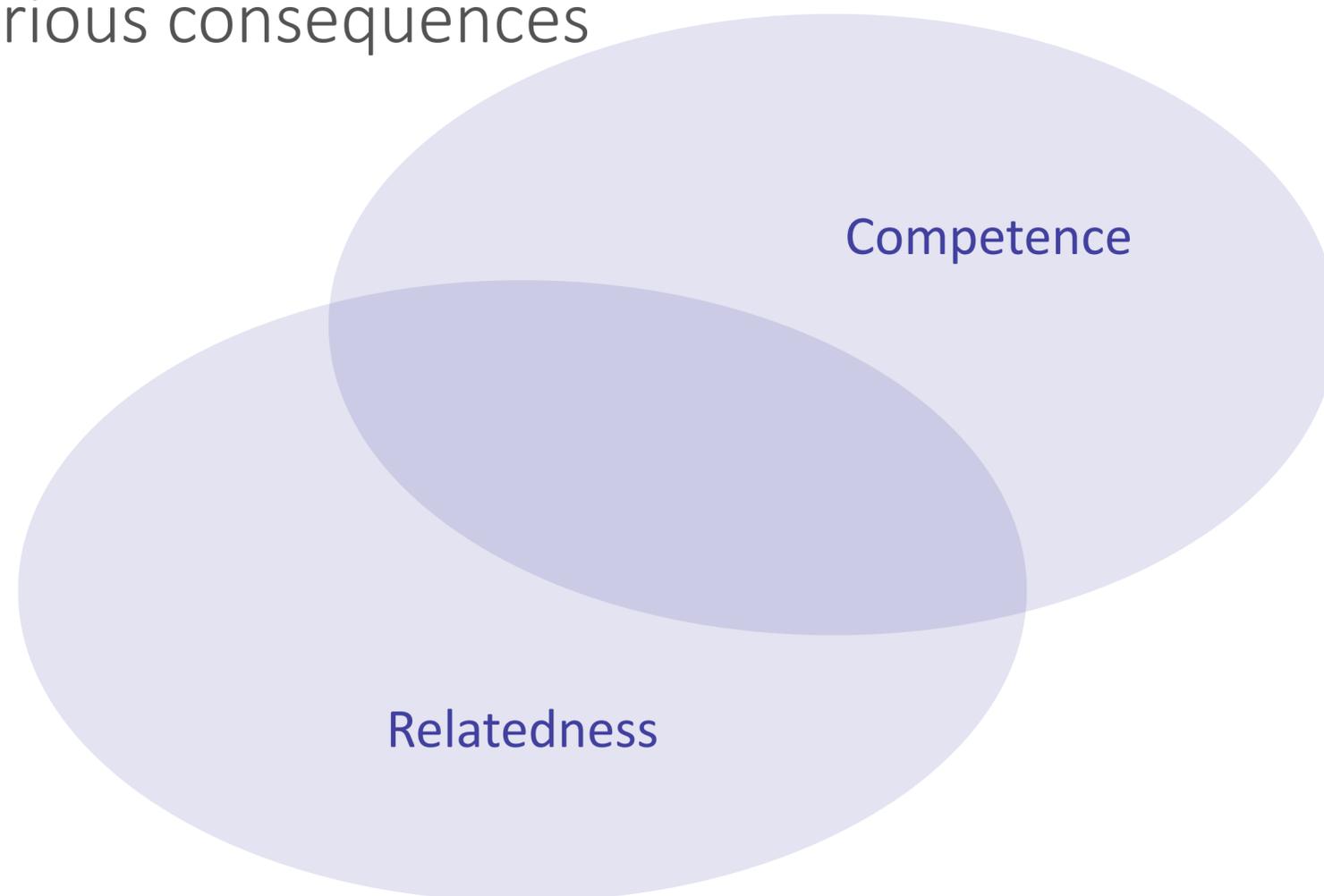
Policing – *Intrinsic motivation*

- Poorly designed and technology-centred solutions can negatively impact officers' intrinsic motivation



Policing – *Intrinsic motivation*

- Poorly designed and technology-centred solutions can negatively impact officers' intrinsic motivation
- Can have serious consequences



Policing solutions – *Example*

- Predictive Policing degrades the value of “soft policing”
- *Appears to treat police officers like security guards — ‘manned guarding’ approach*
- *Appears not to recognise ‘community engagement’ role of officers*
- *Appears to conflict with officers’ responsibility for making autonomous decisions*



Policing solutions – *Example*

- Predictive Policing takes a ‘technology-centred’ approach
- *Design shortcomings often framed as “user acceptance” issues*
- *Improvement efforts tend to focus on more or better data — rather than addressing usability*



Policing solutions – *Example*

- Predictive Policing takes a ‘technology-centred’ approach
- *Design shortcomings often framed as “user error”*
- *Improvement efforts tend to focus on more data collection rather than addressing usability*



“Data minestrone”



Policing solutions – *Example*

- Predictive Policing takes a ‘technology-centred’ approach
 - *Design shortcomings often framed as “user acceptance” issues*
 - *Improvement efforts tend to focus on more or better data rather than addressing usability*
- Unfortunately, Predictive Policing developers often fail to address data accuracy issues
- Fundamentally, Predictive Policing developers fail to ask:
 - *In what ways might we support police officers to patrol the area for which they are responsible?*
 - *In what ways might we support police officers to engage effectively with citizens and partner agencies?*



CCI project – next steps

- Partner LEAs are currently completing development of their Tools
 - *Eight tools are being developed — two in each CCI Focus Area*
- Tools are being demonstrated in their working context and will be revealed from [April 2021](#)



CCI project – next steps

- Partner LEAs are currently completing development of their Tools
 - *Eight tools are being developed – two in each CCI Focus Area*
- Tools are being demonstrated in their working context and will be revealed from **April 2021**
- Final CCI Conference in **November 2021**
 - *We hope to meet some of you there in person!*



Thank you

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European
Commission

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CCI
CUTTING CRIME
IMPACT

Next Webinar:

Date: Thursday 29 April 2021, 16.00–17.00 CET

Theme: Cutting Crime Impact – Part 2
“Community Policing”

Speaker: Dr Roberta Signori
Greater Manchester Police, GMP

