

What Parkrun has taught me about estimation, pairing, velocity and other Agile concepts

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Parkrun

- Every Saturday 8am
- Run 5 Kms (3.1 miles)
- 3 million parkrunners
- 20 countries
- 1637 locations

Tuggeranong parkrun

medibank livebetter

Class struggling with agile concepts

Affinity Mapping?

Fibonacci?

Hours?

Story Points?

Planning poker?

I don't get it?

Estimation is difficult

- Natural variability between estimates by people based on context, team members capability
- Complexity, uncertainty, risk and amount of effort
- Isn't it just a big guess?

So if estimates vary so much why bother?

- Valuable to help make decisions
 - Understand trade-offs
 - Coordination and Integration
 - Forecast when "A" will Finish
 - Forecast who much can be done
 - Help assess changes

“Hot Girl Walk” (Run)

- Fitness, self-reflection and confidence
- Takeuchi & Nonaka – New New Product Development –Game
- Use running to explain Agile concepts

Parkrun – The Requirement

- Run, walk, or jog 5 Kms
- Time taken varies widely between runners
- 15 – 60 mins to finish
- Why doesn't every finish at the same time?

Many Variables

- Fitness
- Age
- Equipment
- Expertise
- Course specs
- Capability



Estimates vary

43 mins

19 mins

23 mins

28 mins

34 mins

Estimation

- 5Km Parkrun times between 34-35 mins
- Average time - velocity
- But its not just about time, so many other factors

Complexity



Uncertainty



- Did it rain last night and there is mud on the track
- Have I done this before and know what to expect?
- How many people are running on the track that day?

Risk

ATTENTION



Please be aware that Stromlo Forest Park is home to a variety of wildlife which roam freely across the park and which you may come into contact with.

Individuals are responsible for

And yes, there are Kangaroos on the course



Context varies

58 mins

58 mins

- Who am I Guiding
- What is their goal and average time
- Are they running, walking or jogging today
- Is their guide dog with them

First timer estimation

48 mins

36 mins

34 mins

43 mins

20 mins

58 mins

28 mins

26 mins

First timer
????



Relative estimation

60 mins

45 mins

30 mins

15-20 mins

- Self seed at start (Affinity map)
- Line up at the start based on estimate relative to others

So where's Matt when all this is happening?

- Matt doesn't run
- Official parkrun photographer
- It doesn't happen if its not on Insta
- Wants to know when we can go for coffee?

When will we meet for coffee after the run?

- Team of 9 runners
- All 9 will estimated to be cross finish line around 8:40 am
- Go for coffee at 8:45am

Relatable concepts

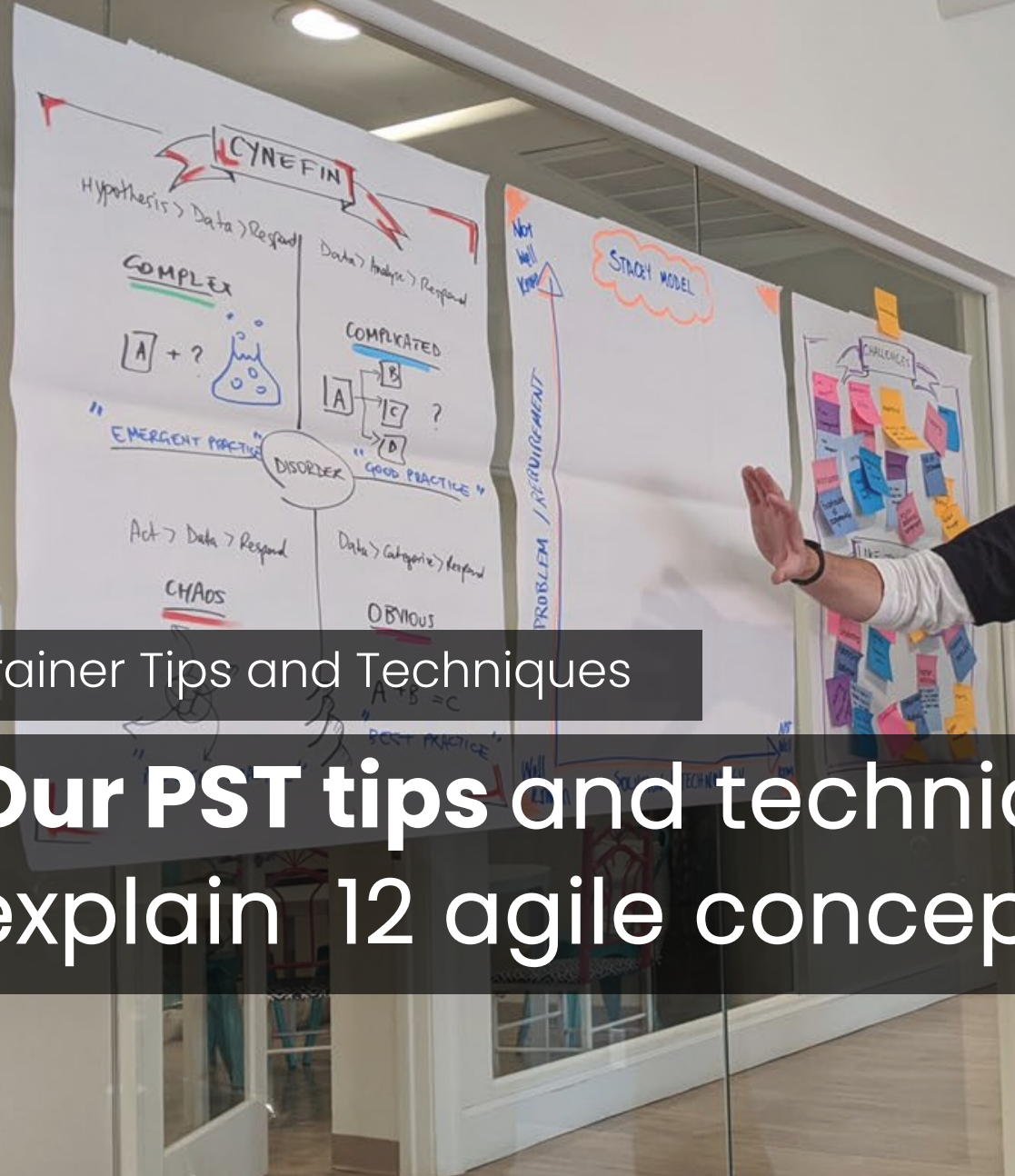
- All this agile jargon can seem overwhelming
- Terminology can be a barrier—points, sprints, velocity, user stories
- Importance to explain complex concepts in a relatable way to develop understanding

Affinity method

- Categories each Feature against:
 - User/Business Value
 - Time Criticality
 - Risk Reduction
- Do the same for the "size" of the solution needed.
- Calculate WSJF.
- Create an ordered list based on WSJF.
- What order did you come up

20
MINUTE(S)
TIMEBOX

3
5
8
13
20



Trainer Tips and Techniques

Our PST tips and techniques to help explain 12 agile concepts

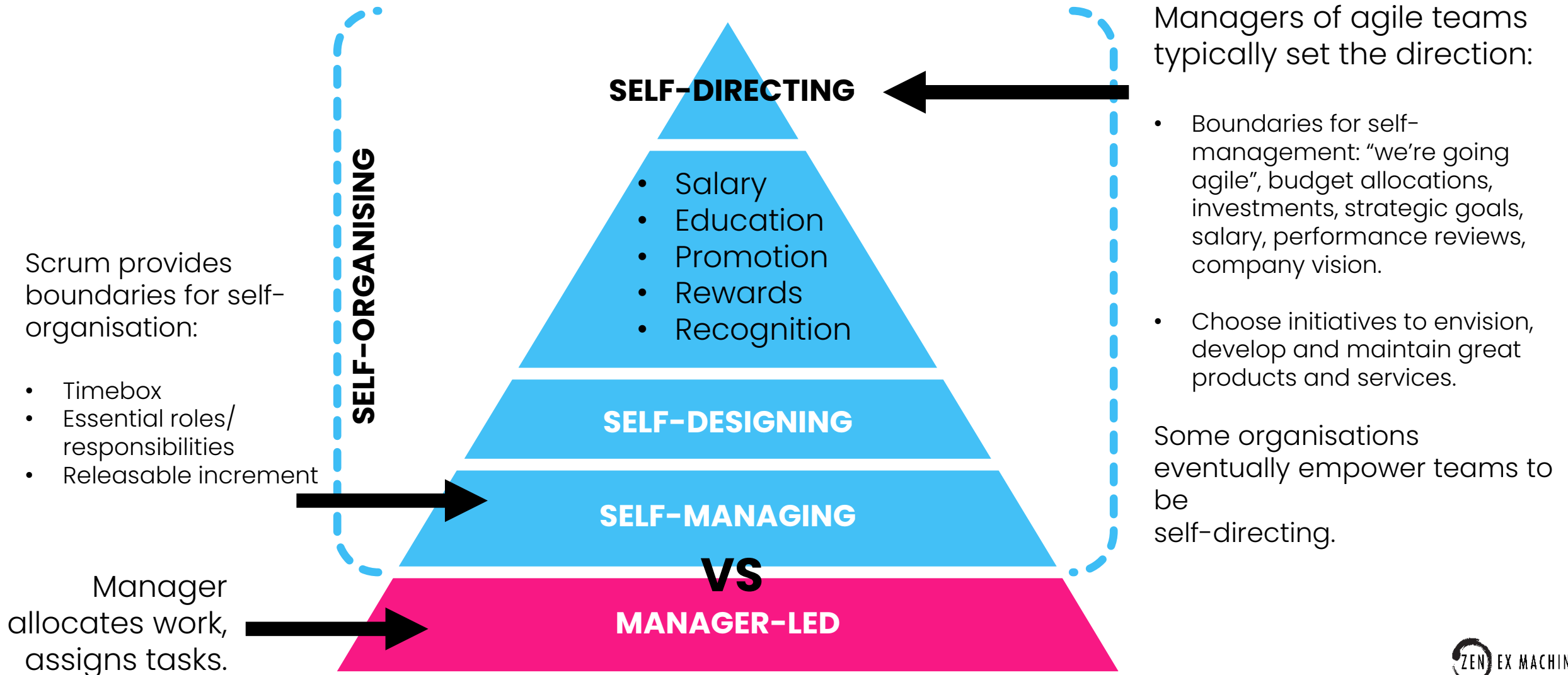
1. Self management

- Runners each decide where to line up at start
- Decide the pace they want to run/walk/jog

Guardrails – “rules of the game”

- Dogs on leash
- Keep to left hand side
- No high fives
- Children <11 with adult
- No spitting

Guardrails and self management



Guardrails and self management

- More effective
- Faster decision-making
- Increased productivity 15-20%
- Higher quality
- Achieve goals more often
- Feel more useful
- Feel more challenged
- Have greater trust

Table 2.

Performance	Traditionally managed teams		Self-managed teams		Self-leading teams	
	Mean	SD	Mean	SD	Mean	SD
Productivity	5	.816	6,143*	1.069	6.5*	0.707
Creativity	4.24	.857	5.714	.756	5	1.414
Goal attainment	5	1.826	6****	.577	5	0
Quality	5.475	.957	6.429*	.535	6.5	0.707
Efficiency	4.708	1.294	5.429	.787	5.5	2.121
Output	4	.816	5.143	1.215	4	0
Overall	4.5	1.063	5.810*	.788	5.417	1.240

* Significantly higher than traditionally managed teams at $p < 0.05$

** Significantly higher than self-managed teams at $p < 0.05$

*** Significantly higher than traditionally managed teams and self-managed teams at $p < 0.05$

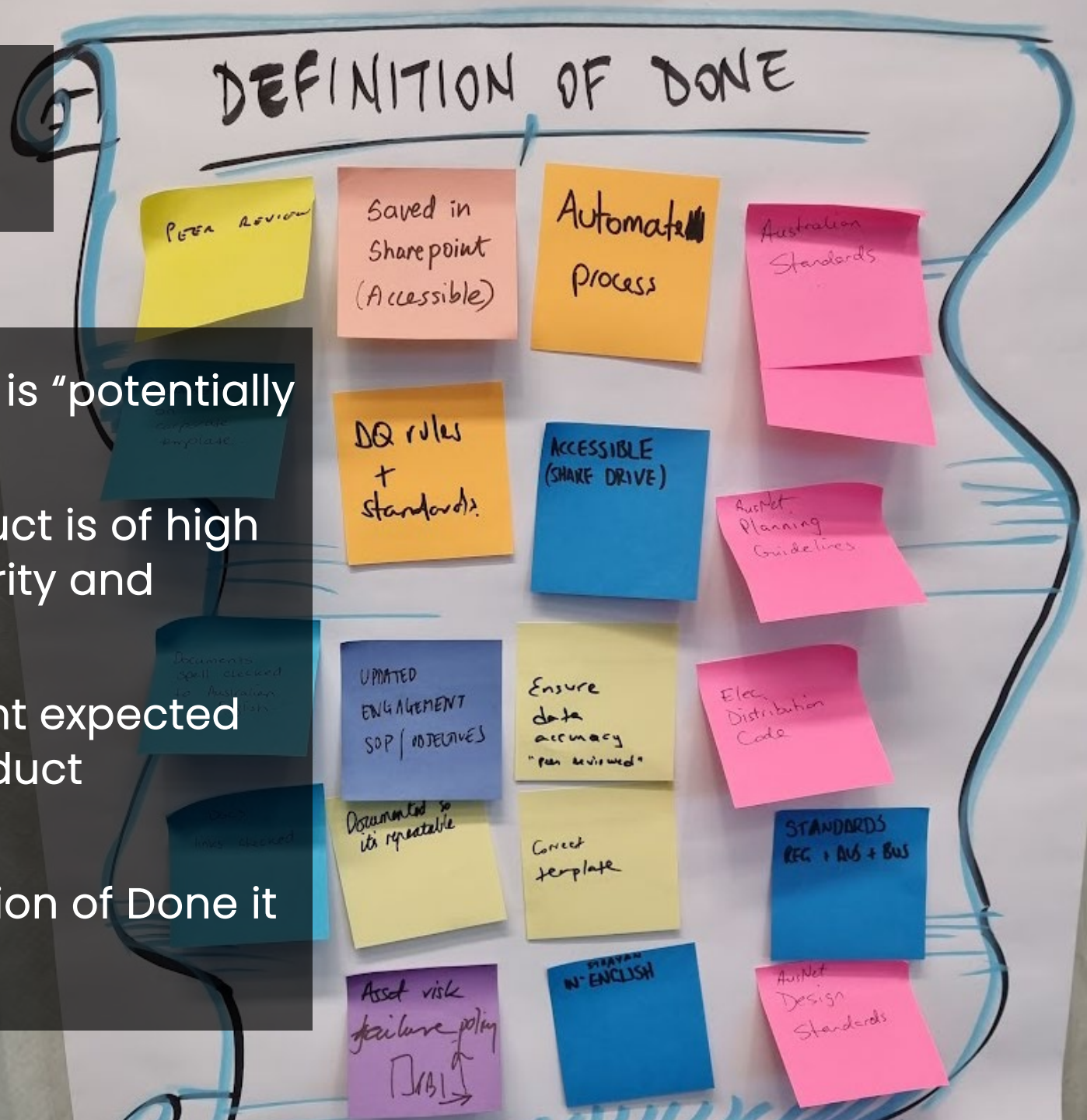
**** Significantly higher than self-leading teams at $p < 0.05$

2. Definition of Done

- Have done the entire course
- Crossed the finish line
- Bar code scanned
- All runners finished

Definition of Done

- Everything that ensures work is “potentially releasable”.
- Checklist to ensure the product is of high quality, including audit, security and compliance criteria are met.
- Checklist to make transparent expected standards, practices, for product development
- When a PBI meets the Definition of Done it becomes an Increment.



Definition of Done

Should include things like:

- Test case, scenario, data documentation, results – what ever it takes to make the end result “potentially releasable”.
- Updating user and training manuals.

Might include things like:

- Delivering training.
- Communications and change management engagement.

Doesn't need to include:

- Showcase the User Story to the PO and get approval.

Doesn't apply to:

- Features.
- Projects.
- Release management.
- Getting a specific role/function (e.g. a B.A.) to do specific activities.

Applies to Waterfall only:

- User Acceptance Testing (UAT).
- UAT / BRD sign-off, CAB approval (the PO is the “change authority” in ITIL v4 as there is no CAB).

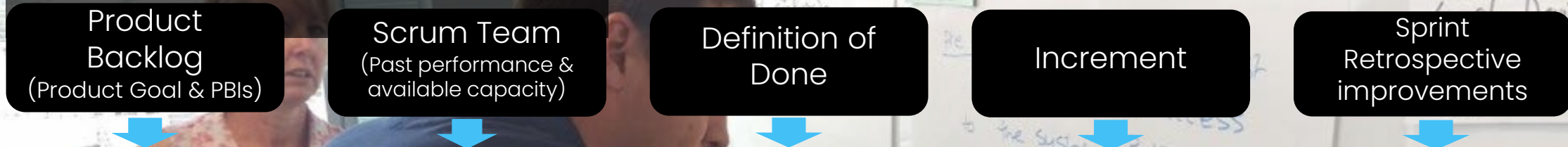
Dates?

- Add it to the acceptance criteria for the PBI

3. Sprint Planning

- What is this course like? Hills? Kms?
- Who's running vs walking?
- Who needs a guide?

Sprint Planning




1 Why

Define or refine Sprint Goal

2 What

Analyse, evaluate, and select Product Backlog for Sprint

 Capacity planning, risk planning, release planning are all important considerations

3 How

Decompose enough work into actionable plan

Sprint Backlog (Sprint Goal + selected PBIs + Actionable Plan)

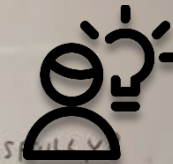
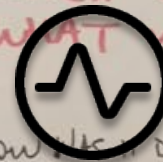
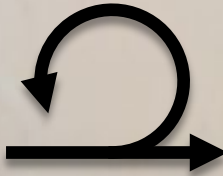
4. Sprint Review

- What was your time? Pace? Splits?
- Did you do a personal best (PB)?
- Did we all finish?
- What does this mean for our next parkrun?

Sprint Review

Timebox: 60mins 9:30 - 10:30

HOW? - A → B → C → D → E
WHY? A → B CAUSALITY!
WHERE? - Key meeting!
WHO?
WHEN ✓
WHAT ✓



Sprint

Increment & Sprint Outcomes

Feedback from stakeholders

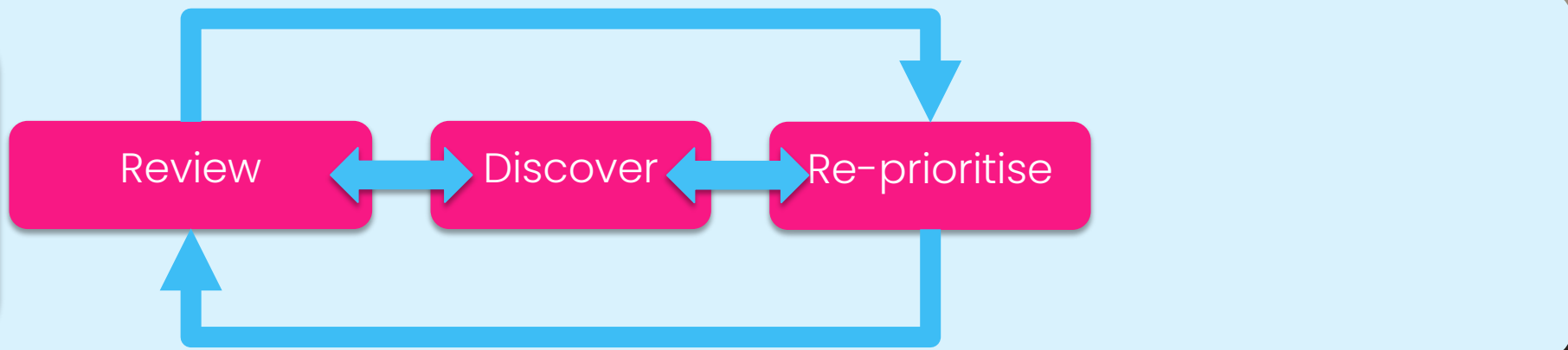
Insights from metrics

Changes to user needs and the market

Progress toward the Product Goal



Return items not "Done" to the Product Backlog, **don't "roll them over"**



Updated Product Backlog

+



Updated Roadmap

Updated Forecasts

Updated Budget

5. Pairing

- Blind guiding – tethered to teach and guide someone on the obstacles on the track
- Take turns with skills and capabilities

Pairing

- c. 1992, "Dynamic Duo" (or earlier)
- Identify your total timebox, e.g. 1 hour
- Identify your swap timebox, e.g. 15 minutes
- Navigator: Intervenes appropriately
- Driver: At the keyboard. Explain what they're typing

Pairing

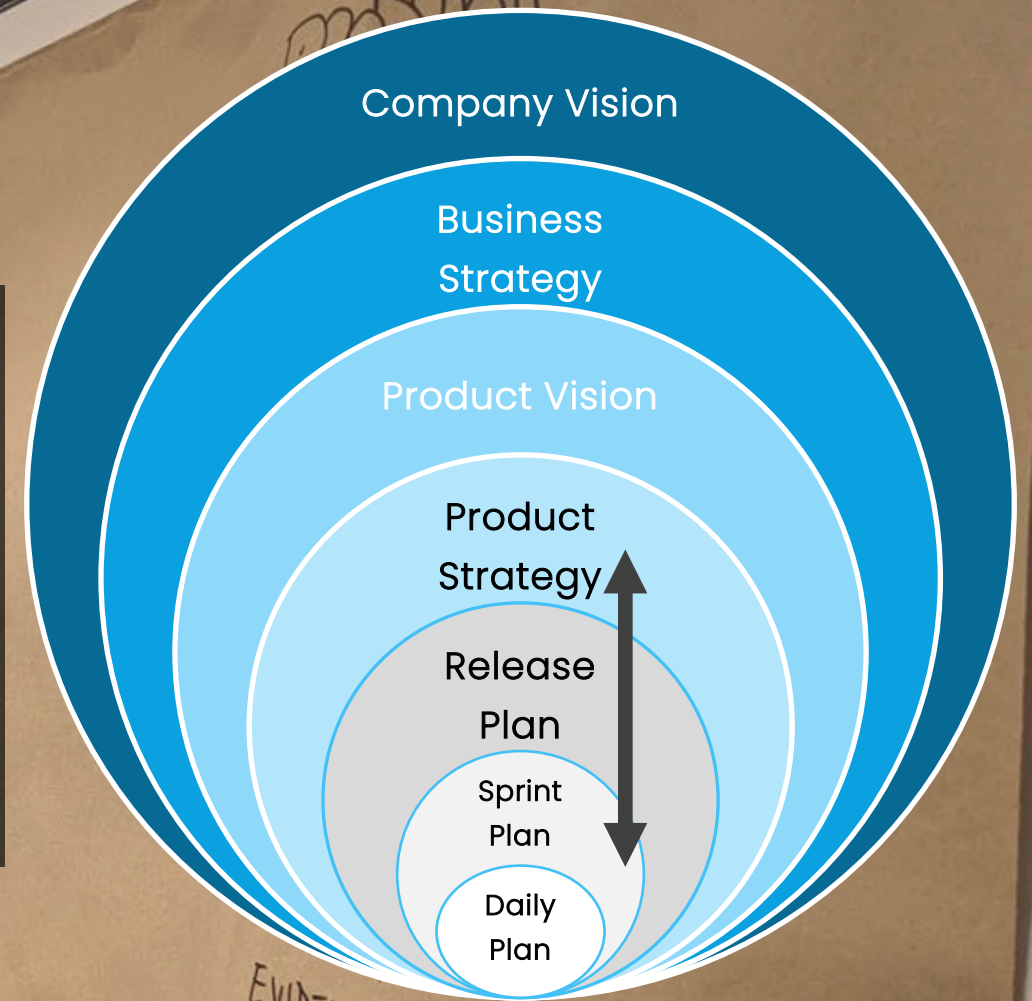
- Only takes "twice" as long if it fails
- 15% longer to complete work
- Identify 20% more defects, bugs, less rework downstream

6. Sprint Goal

- The objective and commitment for the Sprint
- PB, more endurance on hills, do a new course, etc
- Creates a focus but flexibility in how to achieve it

Sprint Goal

- It isn't "deliver 'x' number of PBIs"
- Connects the Sprint to the product strategy
- Sprint Goal contributes a step toward the Product Goal
- See its impact in metrics like "usage index", "customer satisfaction"



Sprint Goal

Example format:

Our focus is on **«Outcome»**

We believe it delivers **«Impact»** to **«Customer»**

This will be confirmed when **«Event happens»**

Example:

Our focus is on having the data extract in our application

We believe it delivers essential incident data to retailers

This will be confirmed when it is visible on the front end of the system

PRODUCT

GOAL

We Believe that offering relevant, differentiated and accessible Plant Based meal solutions to make PNZ Consumers fall in love with HARVEST GOORNI + PB foods. Will unlock a sustainable business model...

We know that this is not what we're after

EVIDENCE / METRICS

7. Team commitment to Sprint Goal

Tail
walker

- When we finish our run, we go back to support the last runner in our team
- Tail walker brings us home

Team Commitment

ARTEFACT

Product Backlog

Sprint Backlog

Increment

Commitment

Product Goal

Sprint Goal

Definition of Done

- Agile ball game
1. Each ball must have air-time – like a hot potato
 2. Each ball must be "touched" at least once by every team member.
 3. Balls cannot be passed to your direct neighbour to your immediate left or right.

8. Timebox

Race bibs have time chips/tags a there are cut off times

- Marathon (42 kms – 6 hrs)
- Half Marathon 21 Kms – 3 Hours
- 10 kms – 1:30mins
- 5 kms – 1 hour

9. Velocity

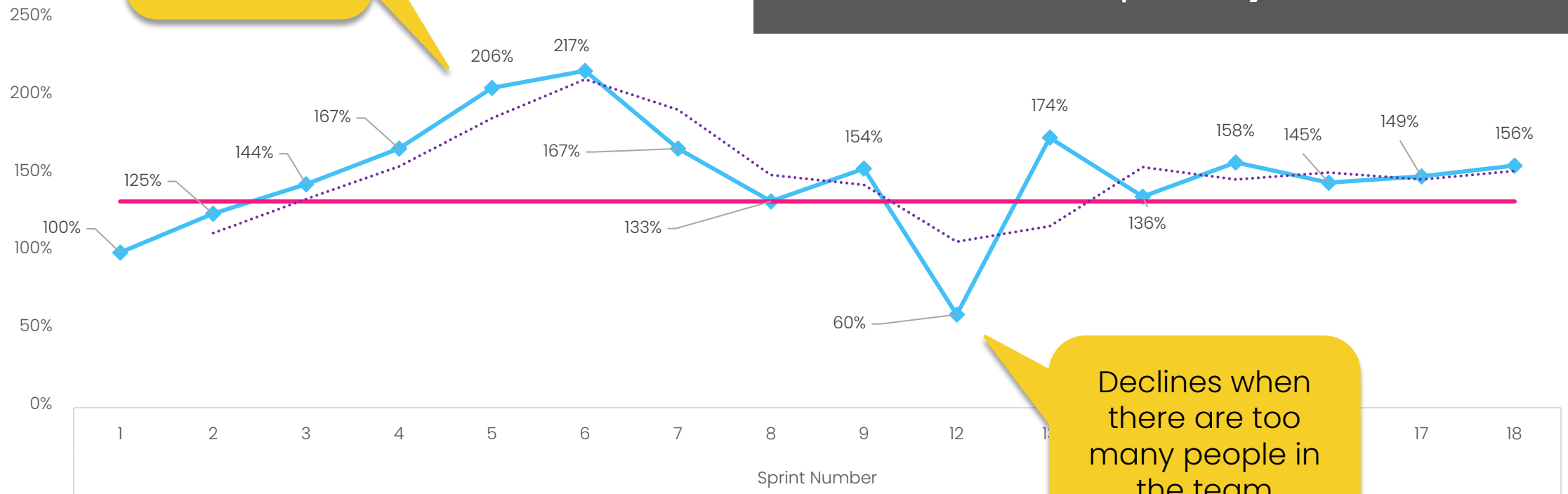
- Speed at which I can complete my 5 km run
- Look at my averages over past runs to forecast what time I may do next run
- Help me forecast when I might finish



Velocity

Improves delivering one type of work

Noun: The amount of Product Backlog that can be turned into an Increment (of Done) within the Sprint **by the team**



Declines when there are too many people in the team

Velocity

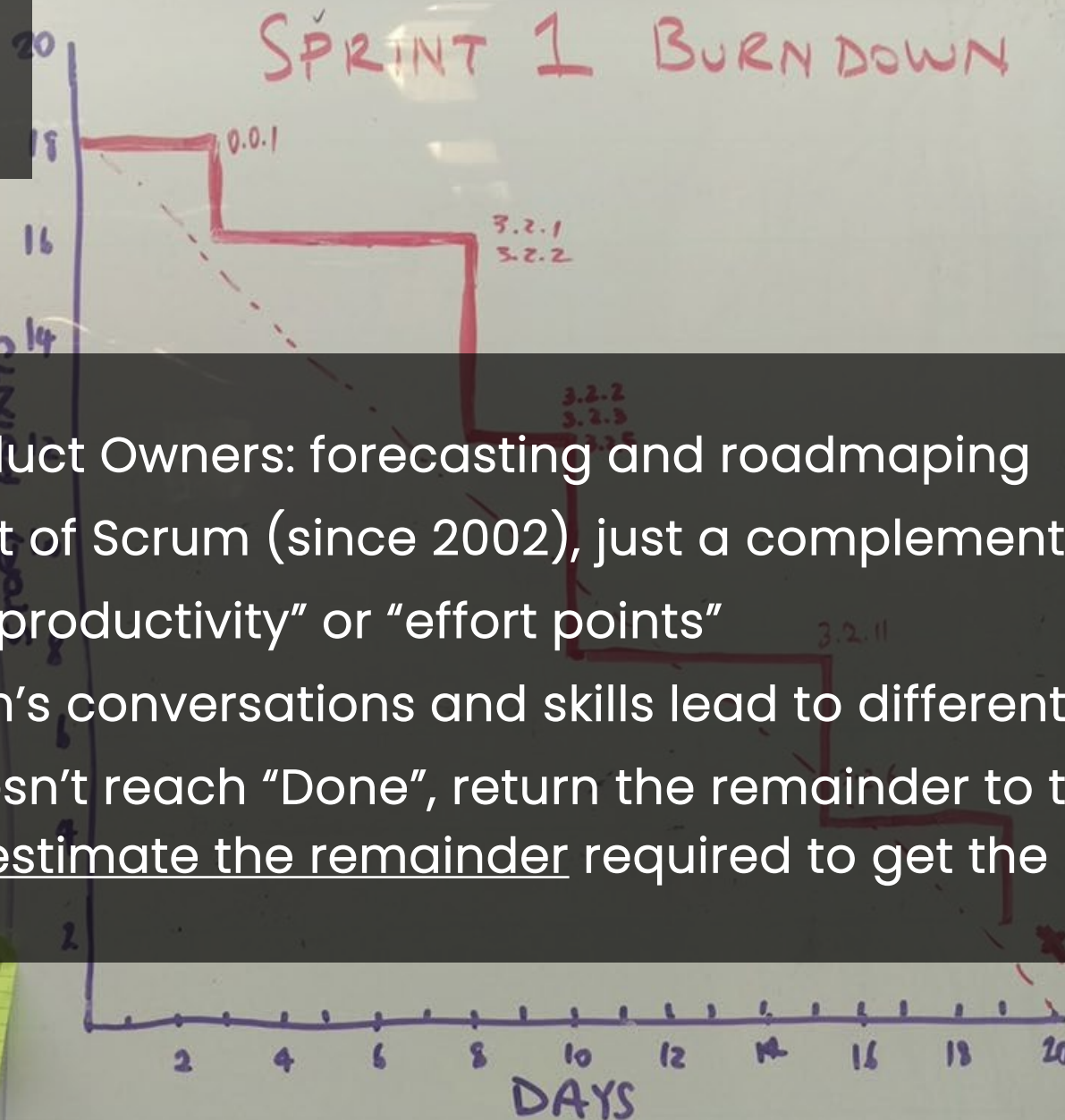
"Velocity is a tool for calibrating estimations for *Yesterdays Weather*, it is not a measure of productivity. Different teams will use different baselines for their velocity units, so it's stupid to compare teams based on their velocities: there's no such thing as *Standard Story Points*. Similarly velocity is a team measure, not an individual measure. Using velocity as a productivity measure kills agility."

Martin Fowler (2013)



Velocity

- Great for Product Owners: forecasting and roadmapping
- No longer part of Scrum (since 2002), just a complementary practice
- Not equal to “productivity” or “effort points”
- Different team’s conversations and skills lead to different velocities
- If an item doesn’t reach “Done”, return the remainder to the Product Backlog and estimate the remainder required to get the item to Done.



Definition
Team Outline
Update existing

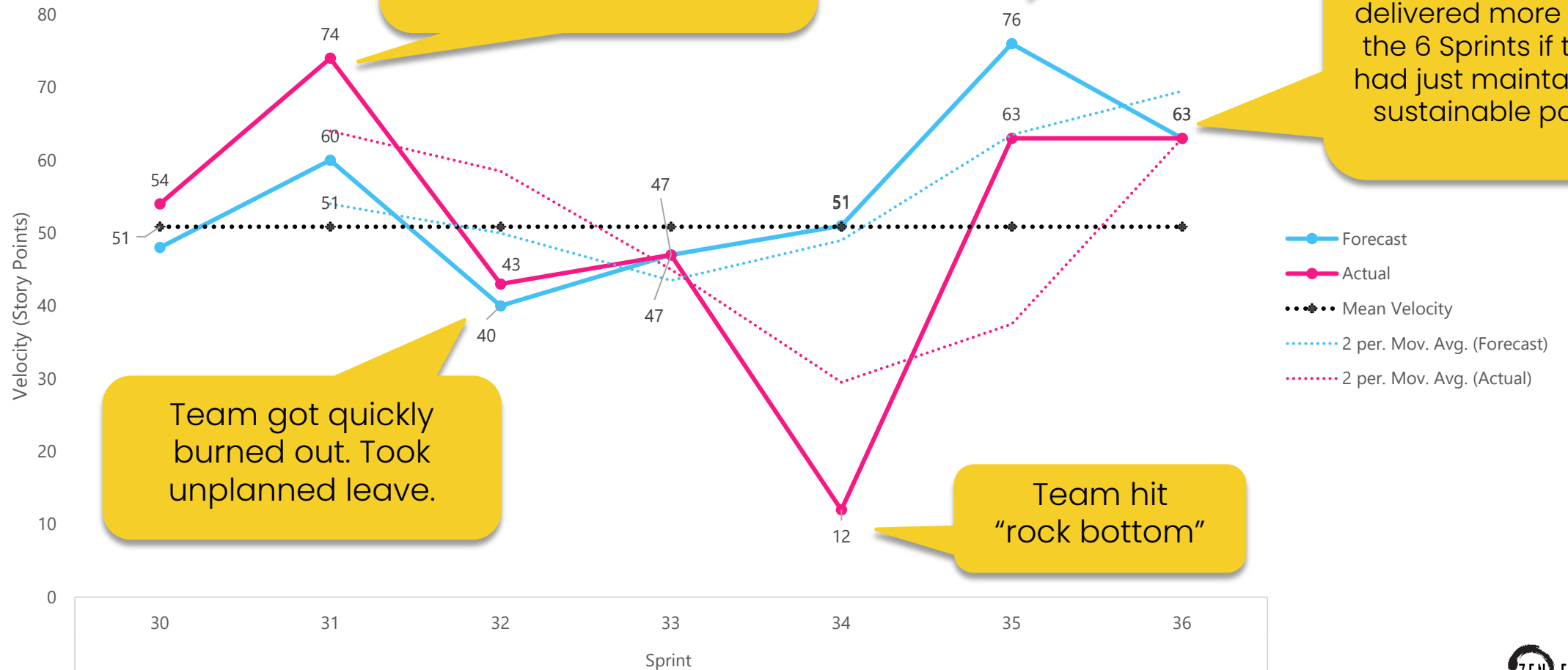
SVN Finalized V.2
Create user for Sprint Planning

Validation for register manufacturer
Success Message display after registering new DMV (Device Manufacturer)
2.1 Register (self) (Practitioner)
2.6 Search FOR PRAC OWNER 20
DATA MIGRATION HSYS → HCSO
Priority

10. Sustainable Pace

- Just because I run 5 km in 34 mins, doesn't mean I can keep that pace up for 10 km
- Adjust pace to be sustainable
- Not burn out on the first 2 km
- Jog the flat, walk the uphill and run the fun downhill

Sustainable Pace



SM went on holidays.

PO demanded more be delivered

SM came back from holidays and restored sustainable pace

Team would have delivered more over the 6 Sprints if they had just maintained sustainable pace

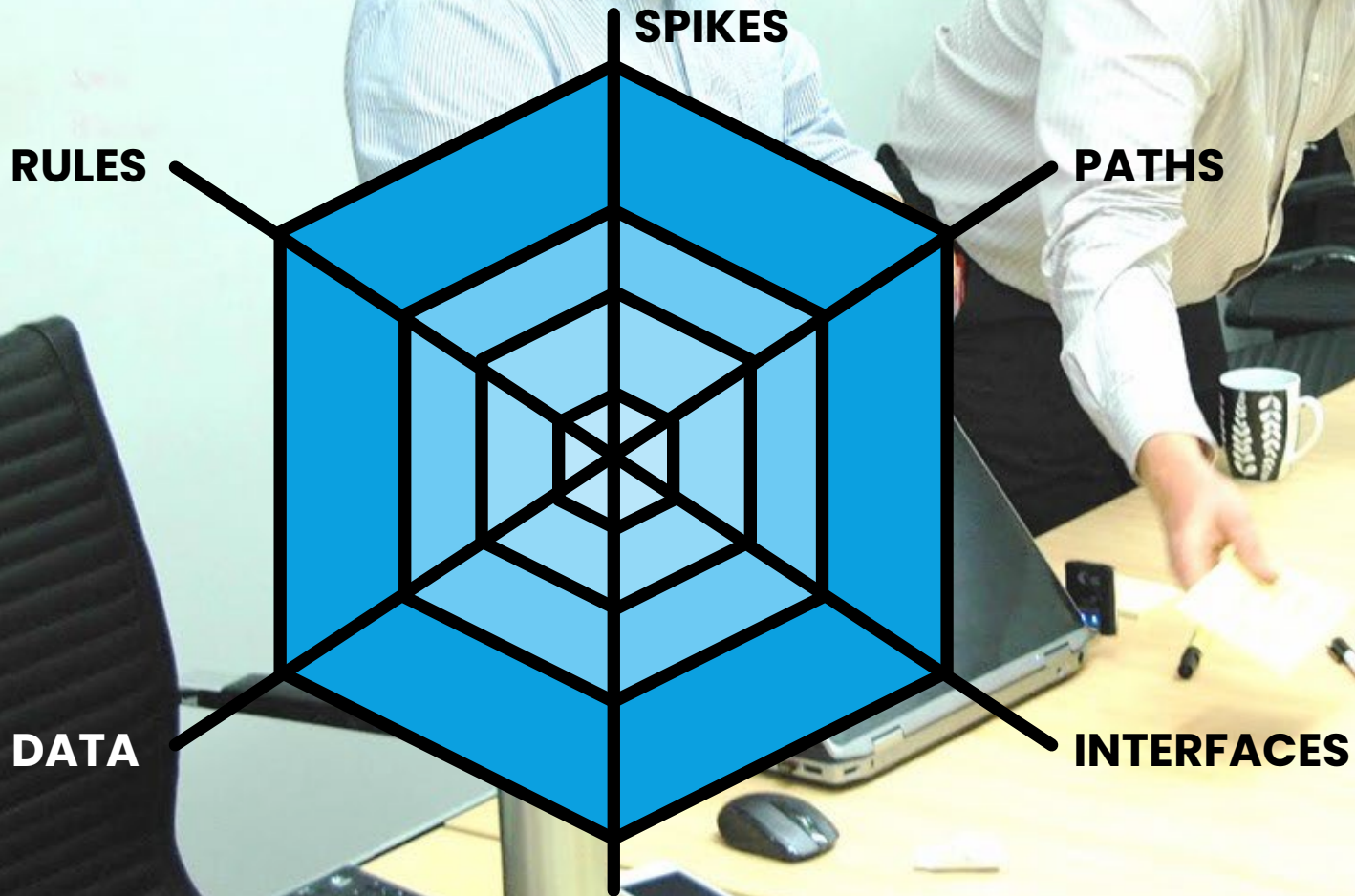
Team got quickly burned out. Took unplanned leave.

Team hit "rock bottom"

11. Splits in a race

- Trail running is tough so break it down into splits of 1 km
- Each milestone at a time
- Each km is an increment towards my goal

Splitting Stories



Mike Cohn's "SPIDR"

12. Wave start

- Technique to send participants off in smaller groups
- Lessens overcrowding and bottlenecks



ACTIVITY

- Crowd source up different metaphors to help you explain agile concept to someone who is new to agile



15 mins

Running or sporting metaphor

- In pairs
- Come up with a running or sporting metaphor for your agile concept
- 2 mins to discuss with your partner
- 1 min to present back to the room

Continuous improvement???

- Excited my times were getting better
- But then, Matt asked me how I was measuring it

By PB time, Splits and Pace



2:01 77%

← Profile

Tap an event for analysis

Ginninderra		
Best Time	Best Position	Best Gender Position
34m 03s	95	41
Total Runs	Total Volunteers	Last Visited
28	8	04 Jun. 2022

Tuggeranong		
Best Time	Best Position	Best Gender Position
35m 09s	115	47
Total Runs	Total Volunteers	Last Visited
12	1	16 Apr. 2022

Burley Griffin		
Best Time	Best Position	Best Gender Position
34m 19s	164	64
Total Runs	Total Volunteers	Last Visited
3	0	18 Jun. 2022

Main Beach		
Best Time	Best Position	Best Gender Position

2:03 77%

← Run

4.89 km - 33:42 - 6:53 /km

Burley Griffin Parkrun 1st half
2.48 km - 16:39 - 6:42 /km

View All Results

Workout Analysis

View Workout

Splits

KM	PACE	ELEV
1	6:26	2
2	6:50	6
3	7:02	-1
4	6:53	-3
5	6:55	-1

Problem with your location data? Report

2:18 75%

← Run

mia horrigan
June 18, 2022 at 8:04 AM · Yarralumla, Australian Capital Territory

Morning Run

Distance	Avg Pace
5.01 km	6:50 /km
Moving Time	Elevation Gain
34:13	26 m
Calories	Avg Cadence
309 Cal	169 spm

View Analysis

with 9 others Manage Group

Garmin Forerunner 45



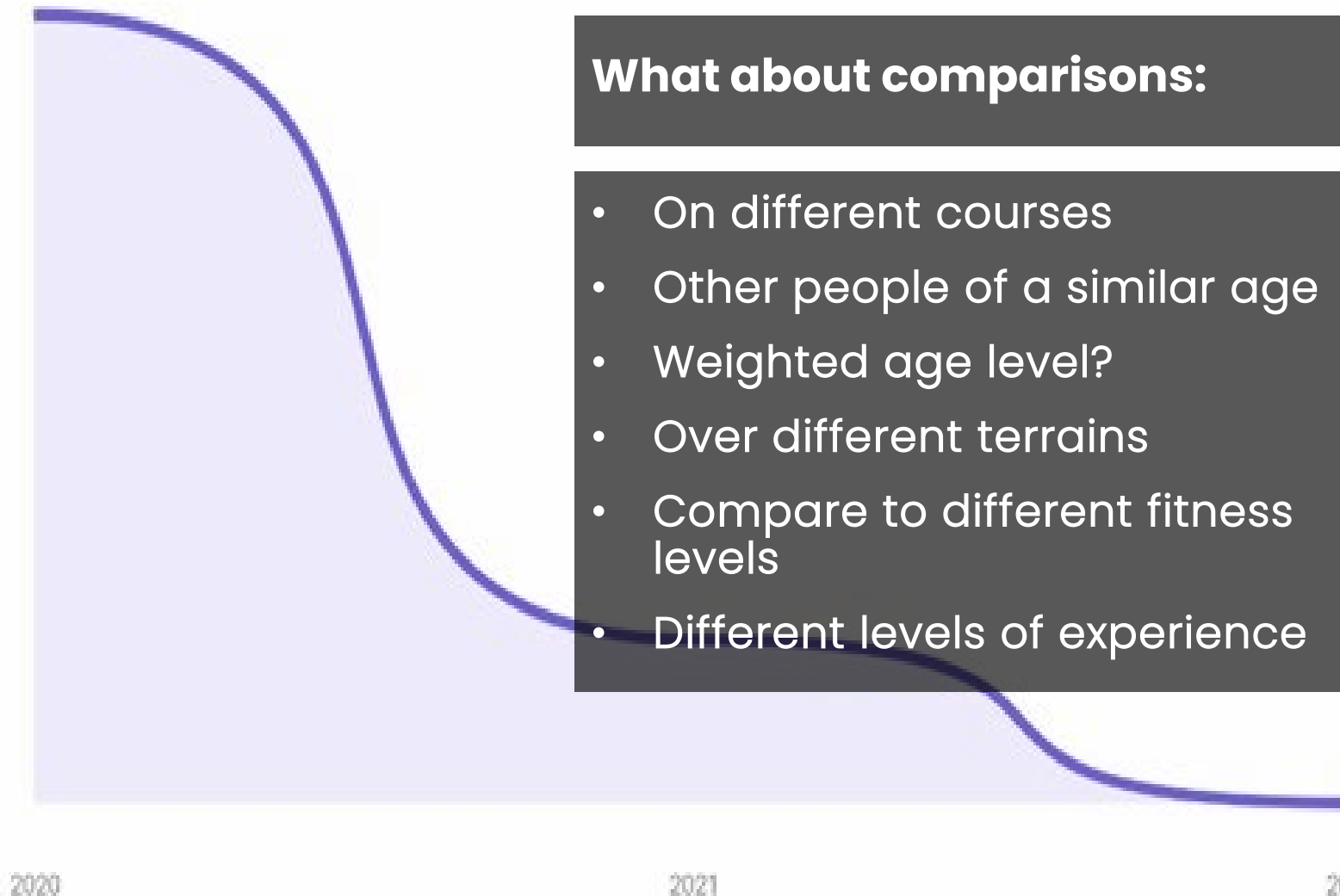
Was I really improving ?

All Years

36m 42s

35m 22s

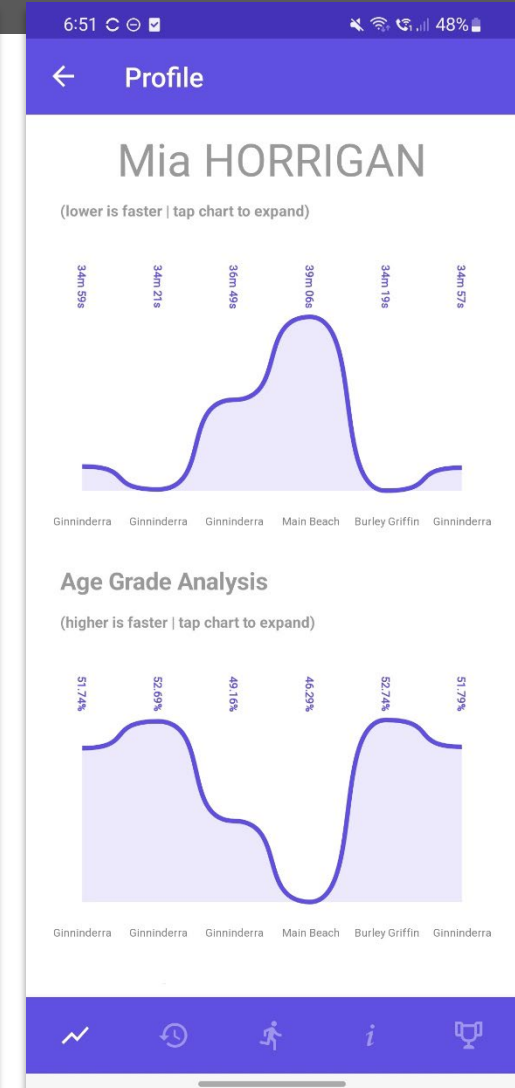
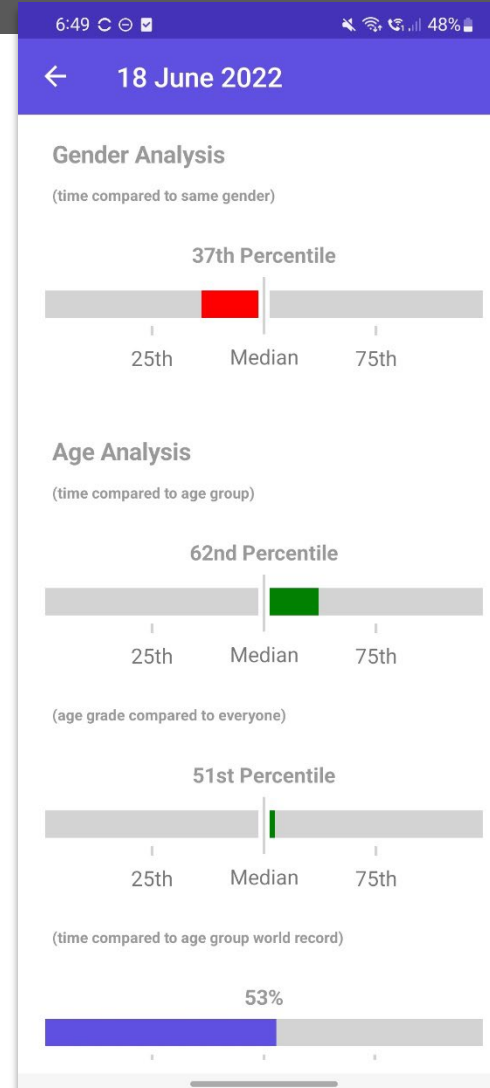
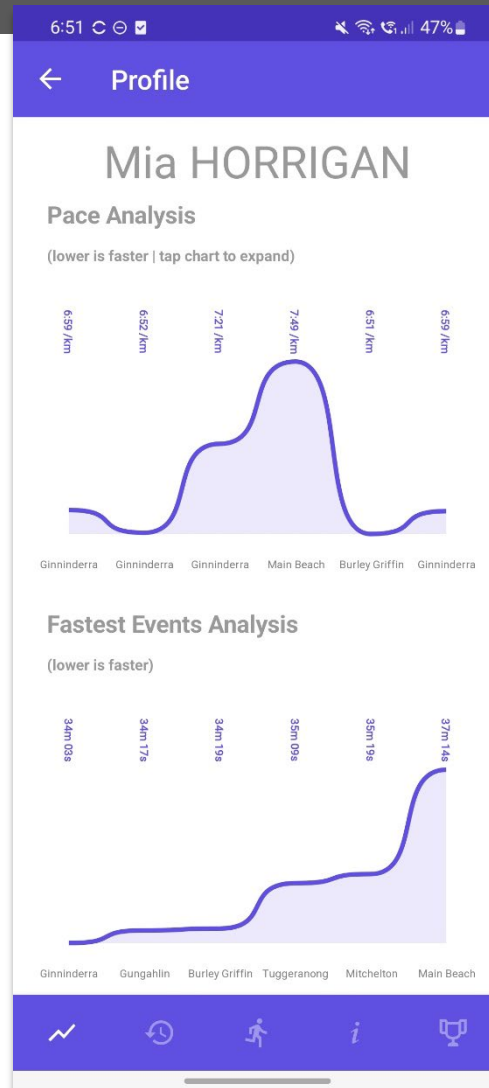
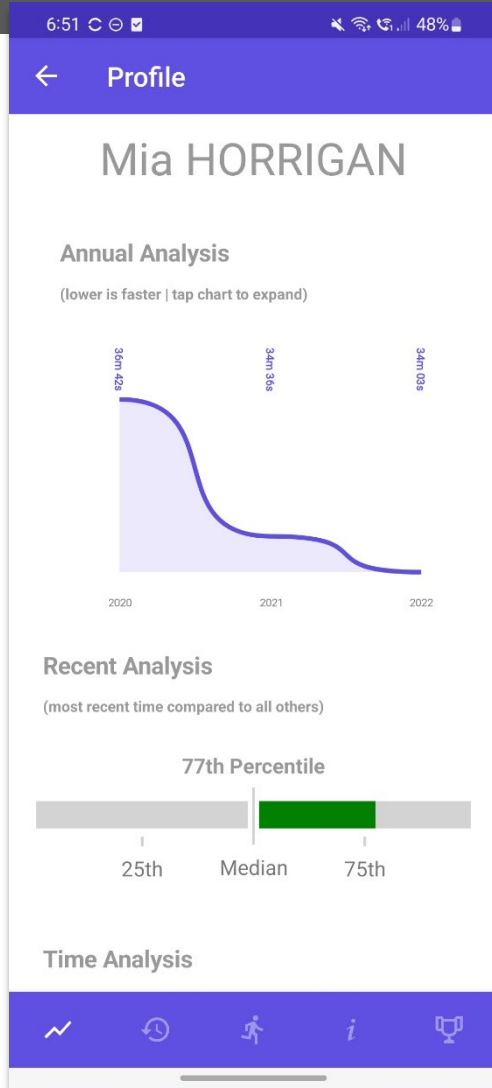
34m 03s



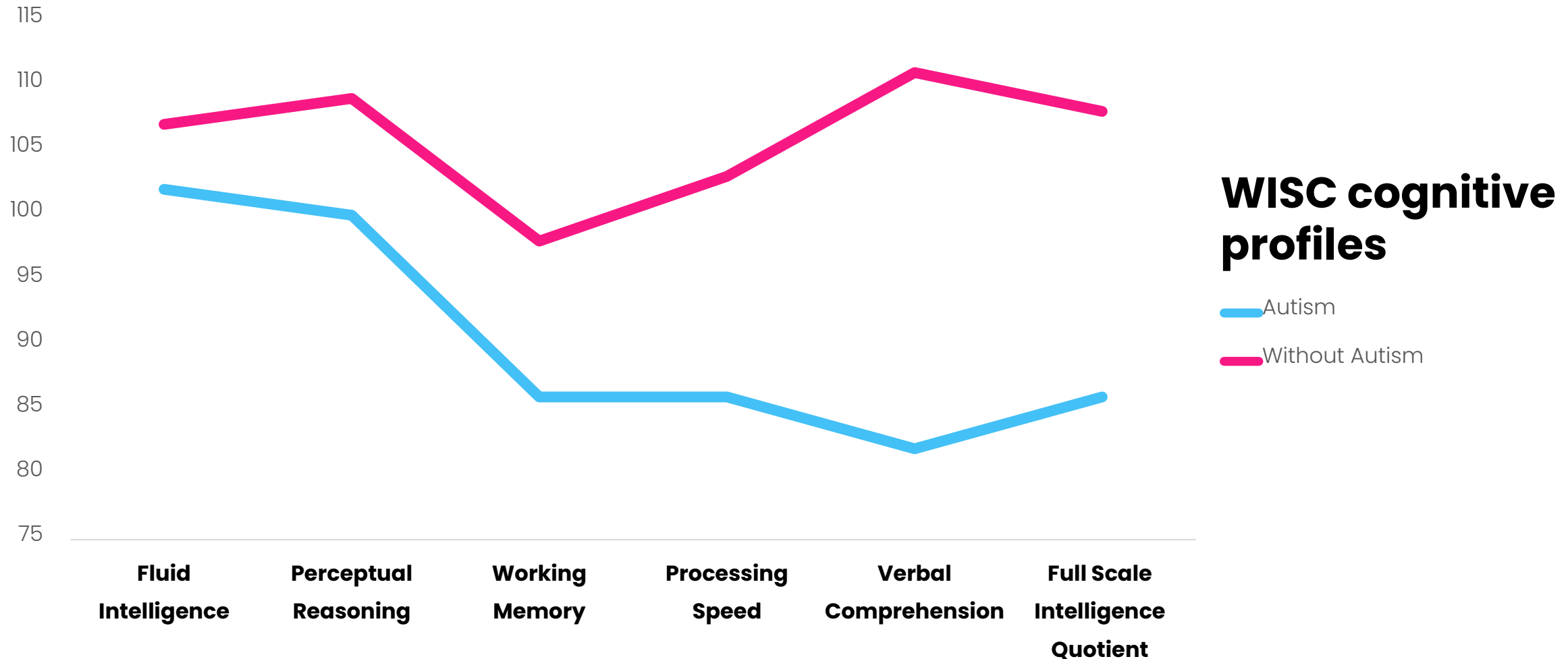
What about comparisons:

- On different courses
- Other people of a similar age
- Weighted age level?
- Over different terrains
- Compare to different fitness levels
- Different levels of experience

Was I looking at the right measures of success ?



Comparison data is key to improvement



Comparing agility: methodology

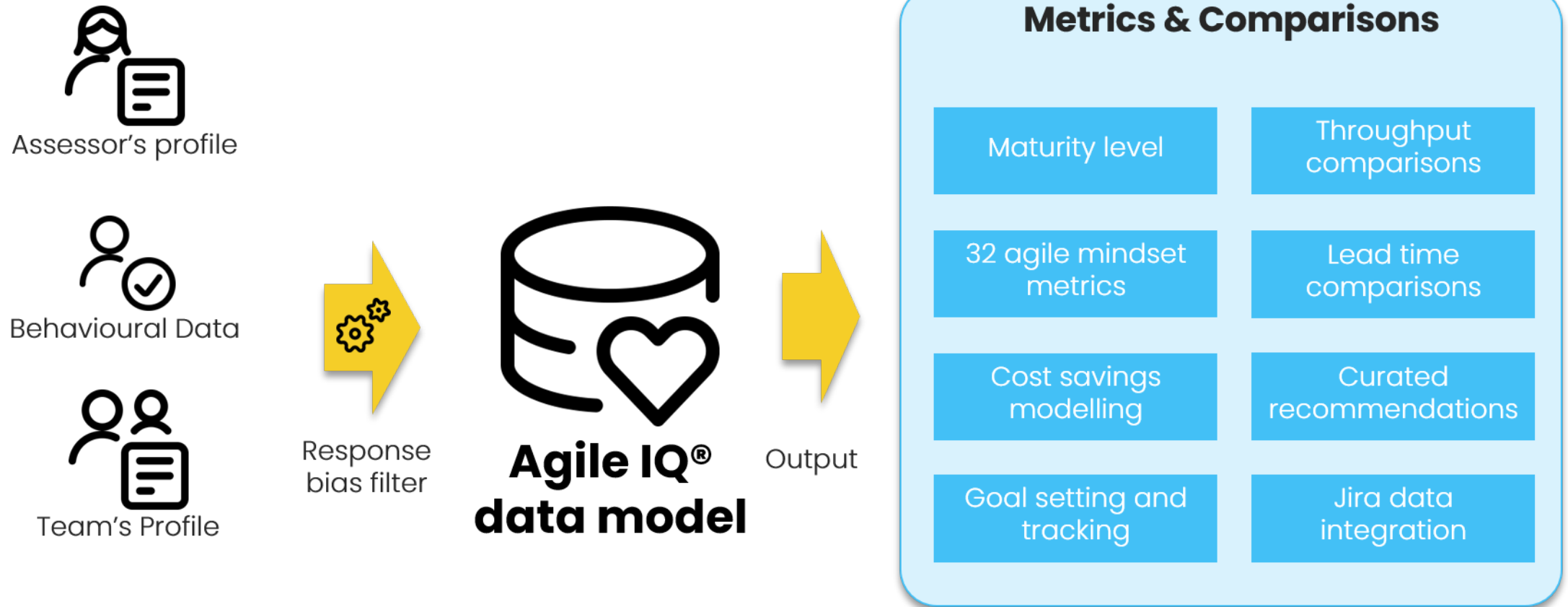
Data profile:

- 10 years data collection.
- 30 organisations incl. large, complex, scaled agile environments, significant compliance and audit requirements, multi-million dollar programs.
- 500+ teams, longitudinal 5+ yrs for many teams.
- Software and non-software teams – incl. HR, finance, marketing, change management, leadership, government policy.

Statistical methods:

- Longitudinal principal components analysis (varimax transformation)
- ANOVA on inter-rater reliability.

Comparing agility: methodology

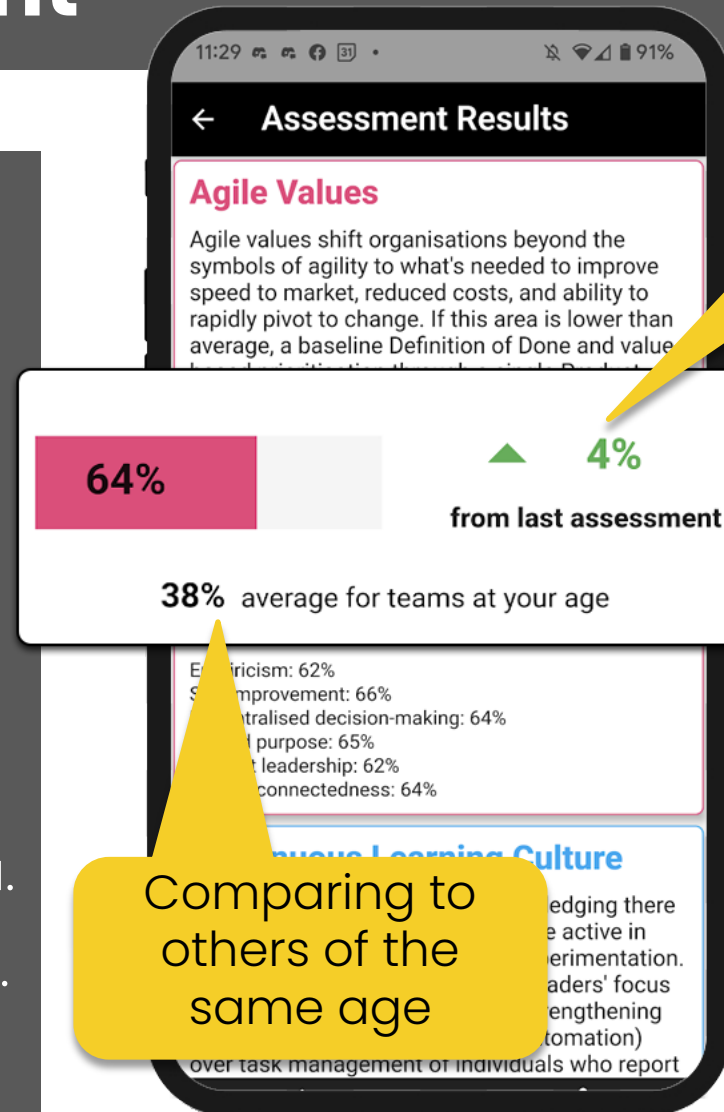


Measuring enterprise agility

Scrum.org whitepaper: zenexmachina.com/whitepaper

Comparison data is key to agile capability improvement

- Cost savings, throughput and lead time modelling.
- One questionnaire. 5 minutes. 32 behavioural metrics.
- Instant comparison results.
- Maturity stages with curated recommendations.
- Set goals. Track improvement data.
- Integration with Jira for throughput.



Comparing to self

Comparing to others of the same age

agileiq.com

Agile IQ



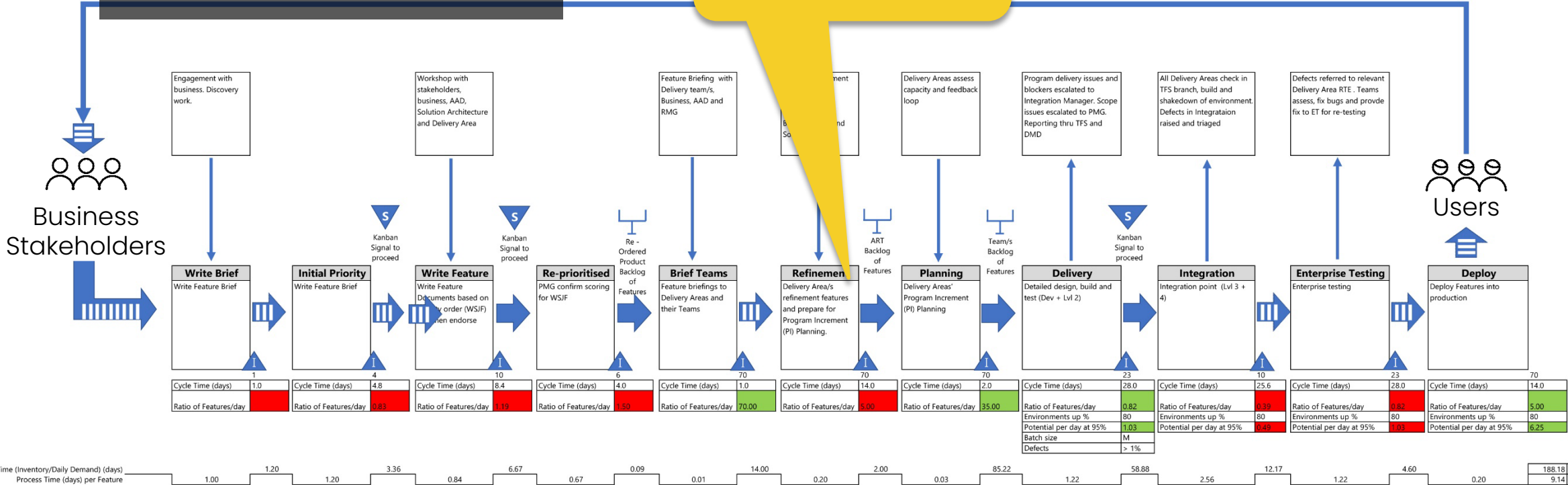
Lead Time

- Measure time taken from crossing start line to when cross the finish line
- Scan barcode and race finish number
- Each runner timed
- Calculate your average

Lead Time

VALUE STREAM MAP

Slow step / bottleneck



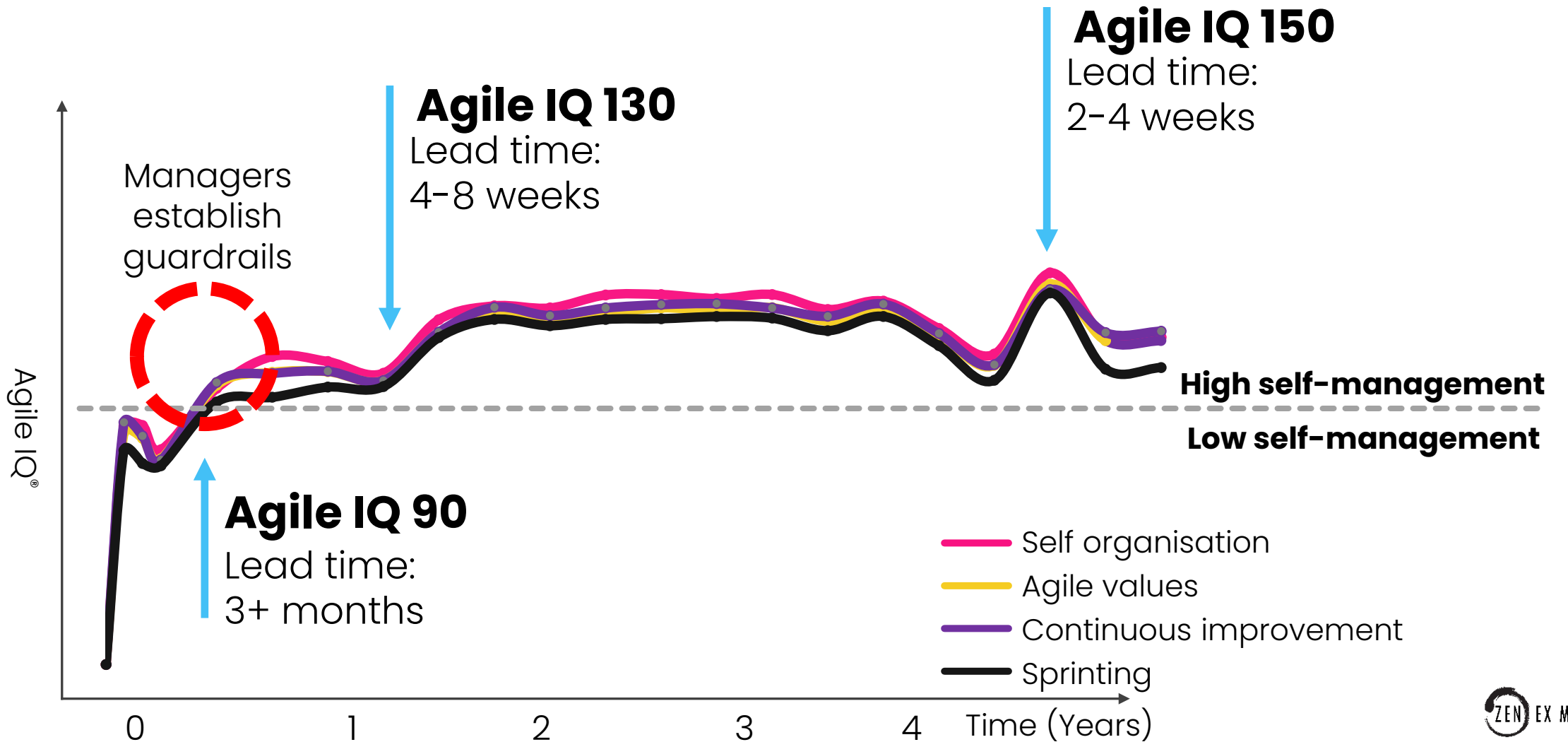
█ Process step not keeping up with downstream demand (bottleneck)
█ Process step is meeting downstream demands (not bottleneck)

- Push process
- Pull process
- Inventory. The number of Features this process step produces
- Kanban
- Kanban Signal

Cycle time and lead time data can help identify where some parts of the value stream are slower than others

Author: M Hodgson, Zen Ex Machina
 Updated: 18/03/2020

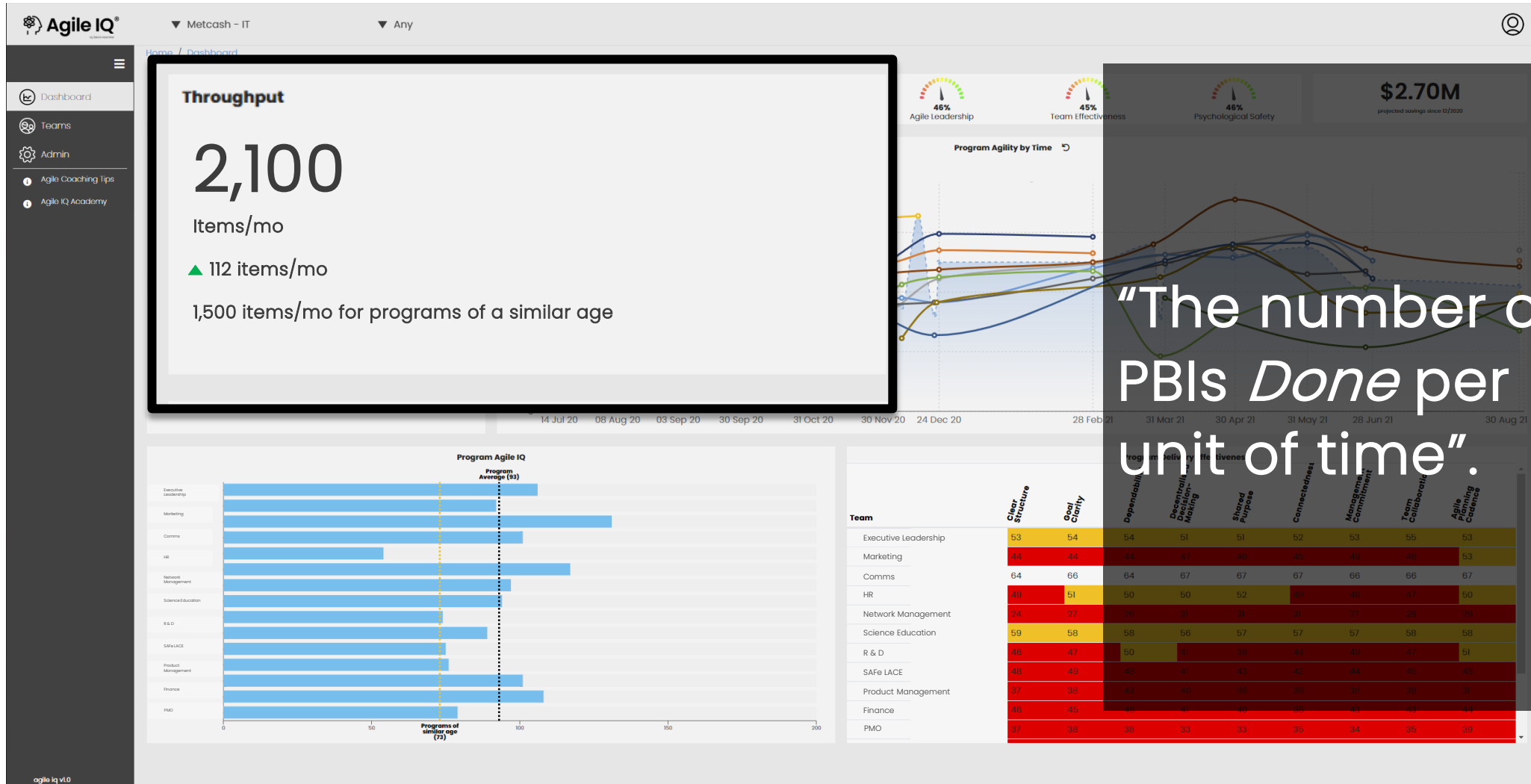
Lead time comparisons



Throughput

- Volunteers need to measure and time runners
- How many runners can they process within 1 hour
- % Runners each week (var)

Throughput metrics



“The number of PBIs *Done* per unit of time”.

Team health

Patient's name
Address

PBS Safety Net
entitlement cardholder
(cross relevant box)

Concessional or dependant
RPBS beneficiary or PBS Safety
Net concession cardholder

PBS Safety Net
entitlement cardholder
(cross relevant box)

Concessional or dependant
RPBS beneficiary or PBS Safety
Net concession cardholder

Patient's name
Address

Date 03/05/2022

Script ID: 269019

03/05/2022

Script ID: 269019

PBS XXXXXXXXXXXXXXX

Brand substitution not permitted

XXXXXXXXXXXXXXXXXXXX

PBS Non PBSRPBS

Brand substitution not permitted

Non PBS

PARKRUN

See www.parkrun.com.au for a location near you. Parkrun organise free, weekly, 5km timed runs or walks around the world. They are open to all, free, and are safe and easy to take part in. People of every ability are encouraged; all are welcomed. Prams are allowed. Saturdays at 8.00am. Adelaide locations: Torrens, Pakpakanthi/ Victoria Park, West Beach, Seacliff, Lochiel, Mawson Lakes, Reynella East, Shiraz Trail, Christies Beach, Aldinga Beach, Cleland, Largs Bay, Carisbrooke, Srathalbyn, Victor Harbour, Charleston, Jubilee Way, Goolwa, Edithborough.

1 Once a week

Quantity: 5*km. 5 repeats.

1 item printed

Dentist Nurse Practitioner Midwife Optometrist

PARKRUN

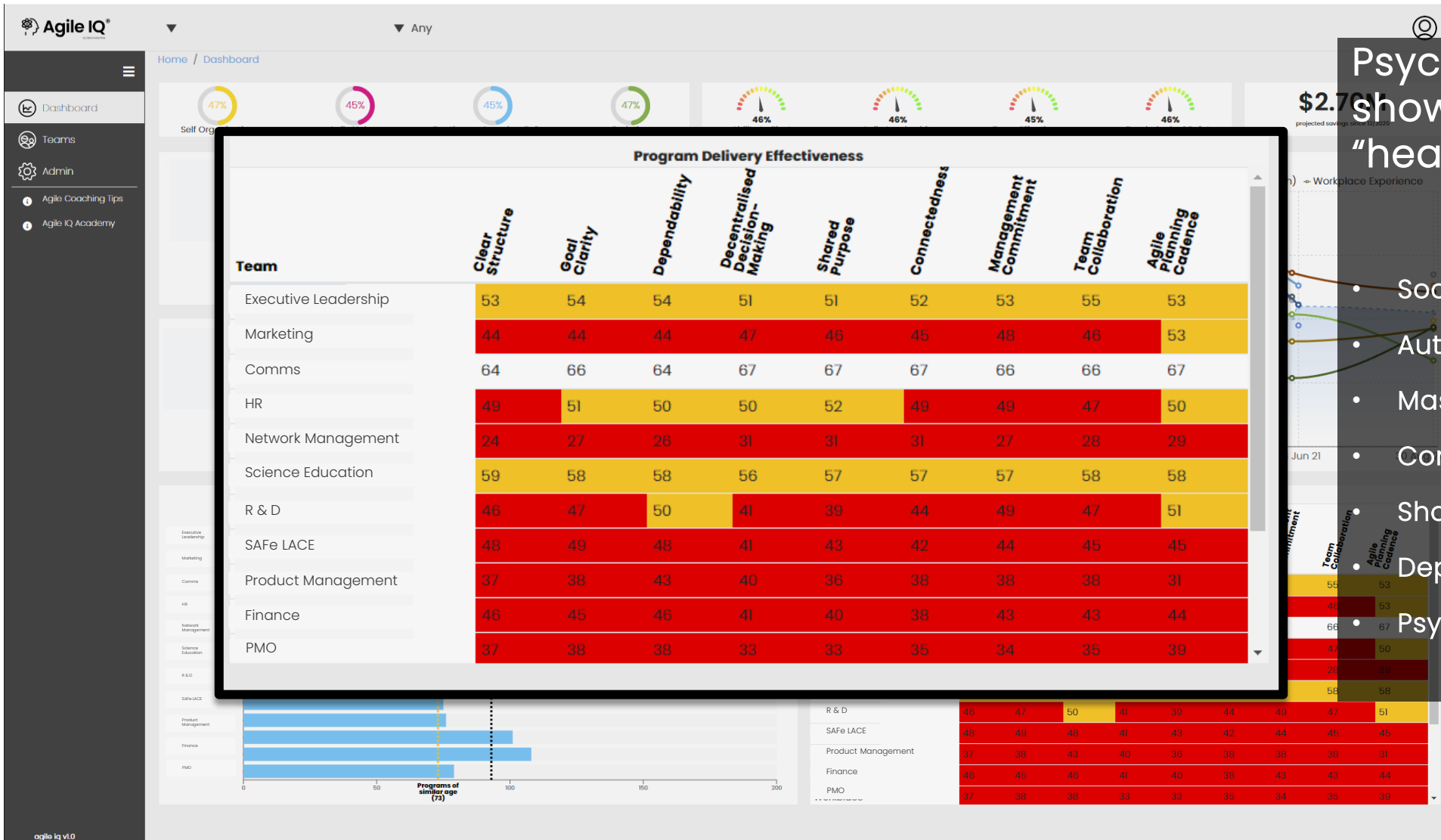
See www.parkrun.com.au for a location near you. Parkrun organise free, weekly, 5km timed runs or walks around the world. They are open to all, free, and are safe and easy to take part in. People of every ability are encouraged; all are welcomed. Prams are allowed. Saturdays at 8.00am. Adelaide locations: Torrens, Pakpakanthi/ Victoria Park, West Beach, Seacliff, Lochiel, Mawson Lakes, Reynella East, Shiraz Trail, Christies Beach, Aldinga Beach, Cleland, Largs Bay, Carisbrooke, Srathalbyn, Victor Harbour, Charleston, Jubilee Way, Goolwa, Edithborough.

1 Once a week

Quantity: 5*km. 5 repeats.

1 item printed

Team health = effectiveness



Psych research shows teams are "healthy" when:

- Social needs met
- Autonomy
- Mastery
- Connectedness
- Shared purpose
- Dependability
- Psychological safety

Blockers

- There are dogs, bikes, prams and other people on a shared path
- Blind guide role is to remove those blocker and navigate around obstacles



Blockers

Stop doing the “three questions” at Daily Scrum

Instead:

- **Inspect progress toward the Sprint Goal**
- Is something stopping us from achieving the Sprint Goal?
- How do we remove it?
- How do we work around it?
- Does it need escalating to a manager (the Scrum Master will help)
- How do we **adjust our Sprint Backlog** to reflect what we’re going to do today?

Conclusions

- Metaphors are an effective way to explain complex concepts such as velocity, pairing, relative estimation, sustainable pace and more
- Use anecdotes to relate metaphors to turn the theory into practice and make it real for people
- Practitioner first
- Share good and bad implementation experiences
- Need to leave training with insights on how to action and implement – not just get an accreditation

Don't forget to celebrate the milestones



Be part of an awesome team and community



A woman with short white hair, wearing sunglasses, a bright pink short-sleeved athletic shirt, black leggings with a colorful pattern on the side, and bright green socks, is running on a paved path. She has her arms raised in a celebratory gesture. To her left, another person in a grey shirt and black shorts is clapping. The background is a lush green park with trees and sunlight filtering through the leaves.

Be Inspired

Strive to achieve amazing things



Product Goal – Hawaii Marathon 2023

Leonie's
goal

Para –
Olympian

- Each 5km parkun, 10kms and half marathons
- Training and increments towards product goal
- Hawaii – no time limit and 2-3 guides for each blind athlete

Finish



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