

R Adoption and Change Management – A Large CRO Perspective

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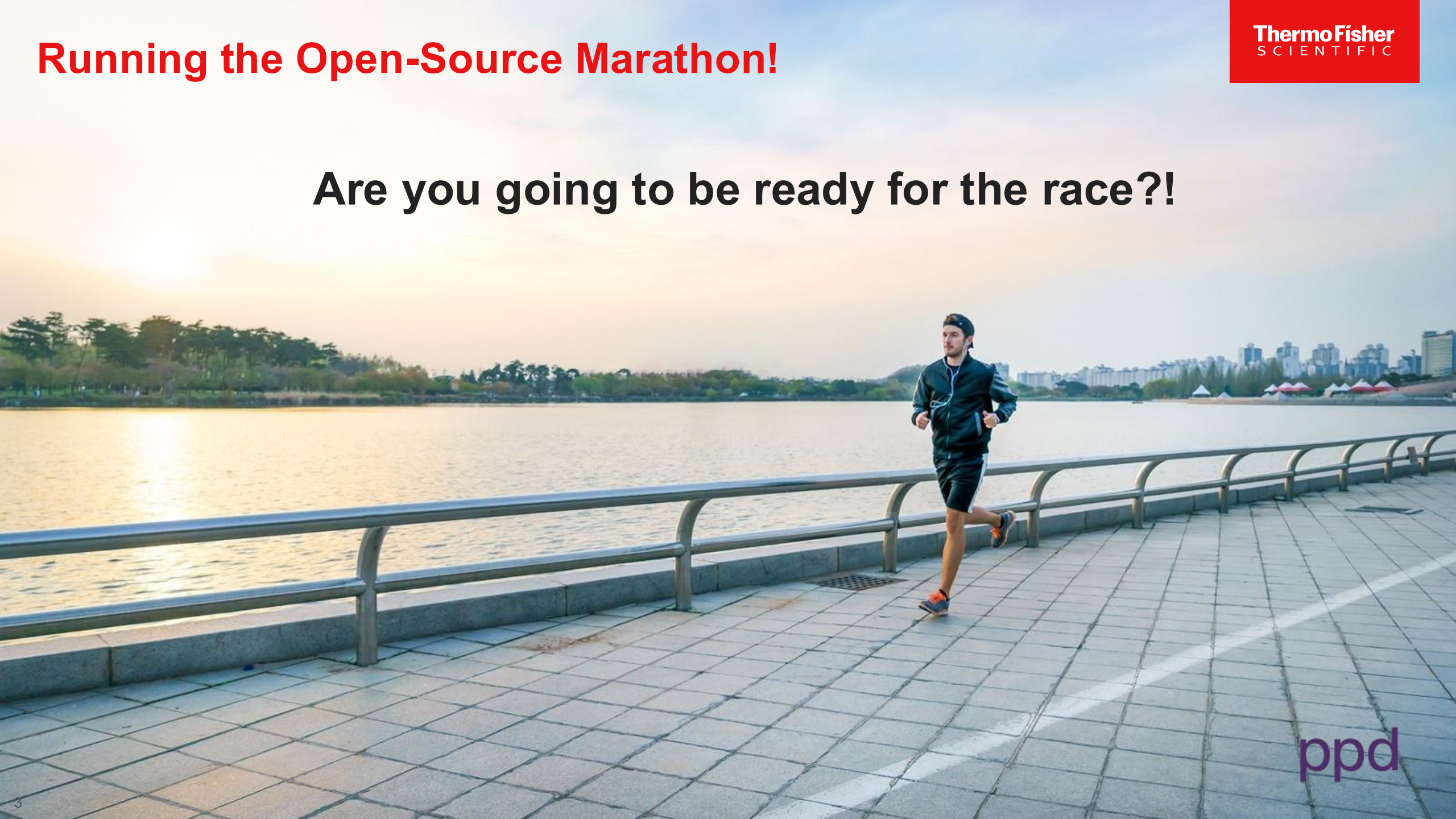
Running the Open-Source Marathon!

“Like a marathon, the change to using R and other open-source languages is a challenge that requires preparation, pacing and perseverance”

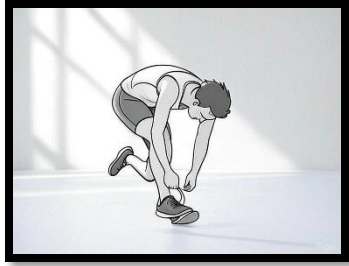
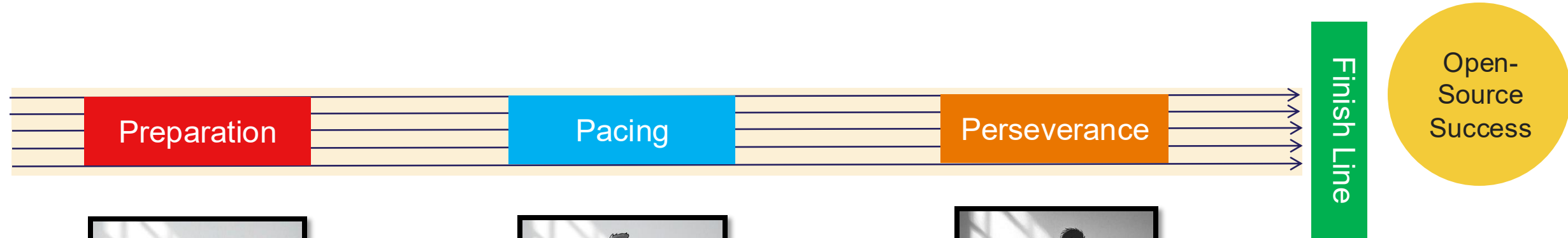


Running the Open-Source Marathon!

Are you going to be ready for the race?!



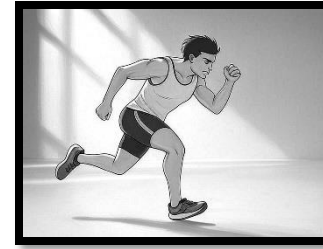
Running the Open-Source Marathon!



- Infrastructure
- Goals
- Leadership



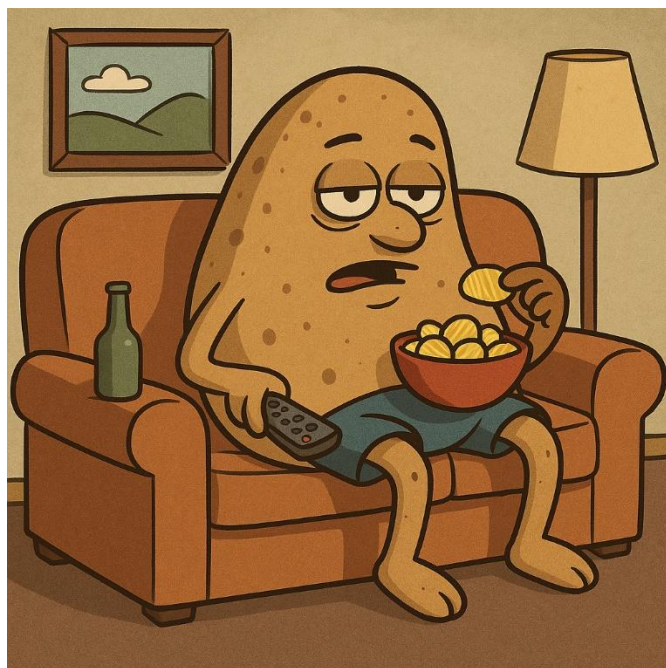
- Keep finding ways to use R
- Immersion
- Training
- Communication



- CRO challenges
- General challenges
- Collaboration
- Adaptability

Pause! – Where are you starting from?

The Couch?



As an Olympic Triathlon Gold Medalist?

Infrastructure

- What infrastructure do you have available?
 - Statistical Computing Environment
- What are your processes?
- Assess
 - What do we have already?
 - What do we need?
 - What do we need to repurpose?
 - What do we need to create?

Goals

- Need to know where we are headed (distance, time)
- Set clear and achievable goals – Be SMART
 - Specific, Measurable, Achievable, Relevant, Time-bound
- Set for different levels
 - Individual
 - Keep on top of what's going on
 - How do I carry out this particular analysis in R?
 - Group
 - X% of department will be familiar with the tidyverse, admiral
 - Be able to respond to client requests
- Strengths and weaknesses

Remember!

Doesn't
need to be
complex

Lots of low
hanging
fruit

Small
quick wins

What are
you
interested
in?

Goal Examples

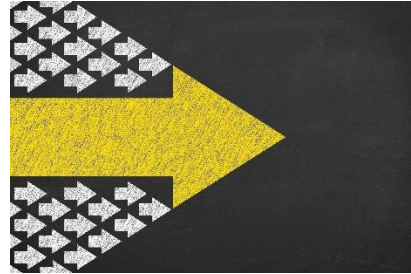
- Create a laboratory spaghetti plot from the CDISC pilot data using the tidyverse
- Find out about Quarto or R Markdown and publish an example
- Drive the use of R for innovative solutions within the business segment.
- Advocate for and support the development of R programming skills
- Learn what is required for an R only submission

Need help?
Reach out!

Leadership

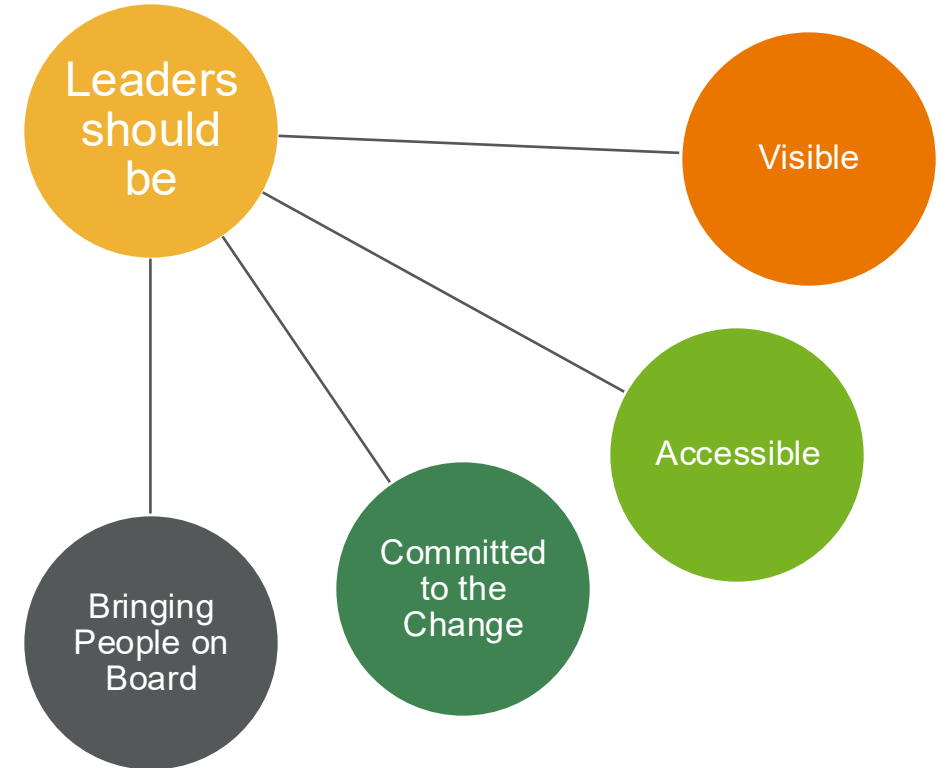
Effective change requires strong leadership to:

- ⇒ drive the process
- ⇒ motivate employees
- ⇒ address resistance

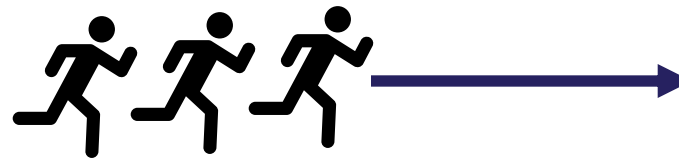


Important Points

- ✓ Clear support from the top
- ✓ Building a large set of experts / champions
- ✓ Passion
- ✓ Feedback loop



Keep the Pace Up!



- What is your pace?! 1 particular aspect up to multiple – look for solutions
- Use R as driver for new innovative solutions
 - Dealing with lots of data, more interactive solutions, more efficiency
- Start projects
- Create opportunities so training is effective
- Look to drive different areas if possible
 - Create working groups

**Little
and
often!**



Pacing

Immerse Others! Training as you Go

- Build open-source awareness and skills
- Courses and resources available – gaps – disjointed – pulling resources together
- Produced an 8 module R Academy course
 - Practical
 - Industry focused and industry examples
 - Given over 8 weeks live initially
 - Recorded and videos available to many
 - Gets people started
- Carry out specific training just-in-time

Good Communication is Vital

"Communication is the bridge between confusion and clarity."
– Nat Turner

Regularity + Effectiveness

- Sharing vision and ideas
- Demonstrations
- Support
- Resources



Pacing

ppd

CRO Challenges

Multiple projects / processes in SAS
Meet deadlines!
Stay highly utilized!

- Use R and SAS together
- Make R billable

Many clashing priorities

- Be specific
- Fight for it – stress importance

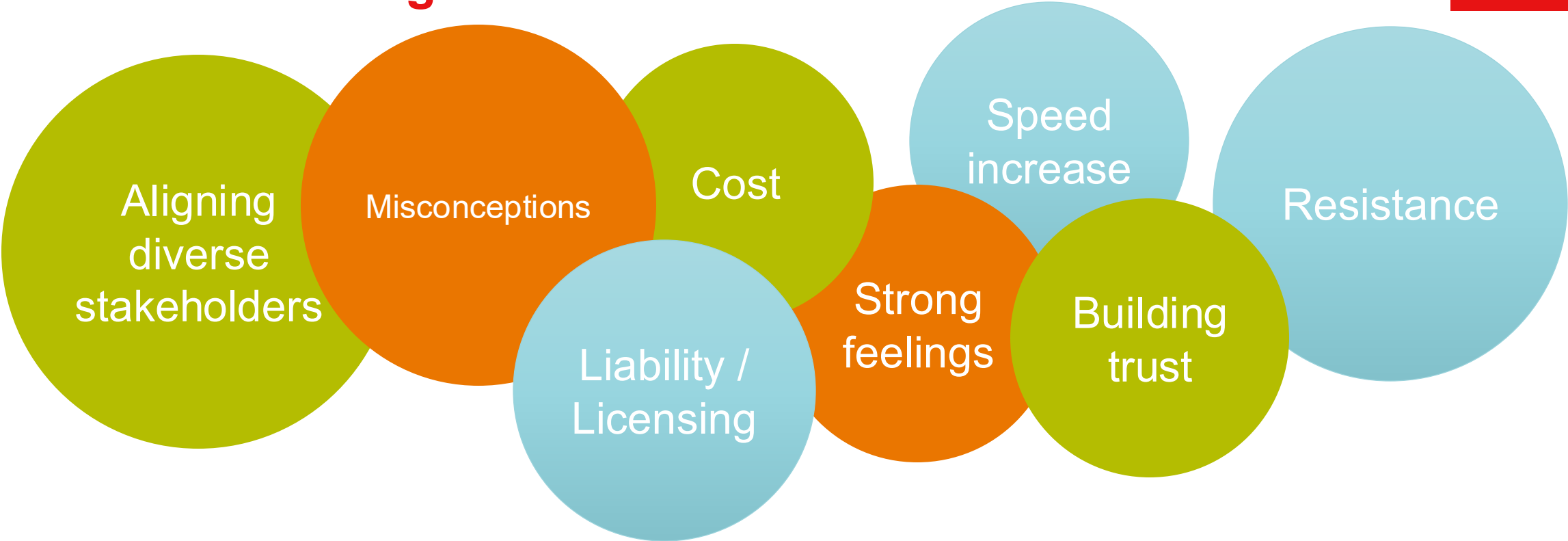
Multiple solutions
being developed by clients

- Explore!
- Stay as flexible as possible
- Make a choice!

Perseverance

ppd

General Challenges

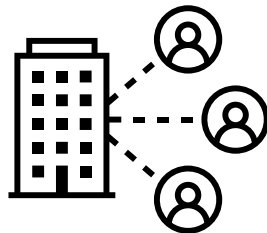


Collaborate

Stay Adaptable

Perseverance

Collaborate

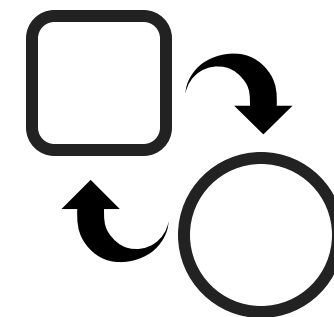


- It is hard – we need each other
 - Similarities of the running and open-source communities!
- Cross-functional
 - Biostatisticians, programmers, IT, regulatory affairs, data management, PK, RWE
- Pooling resources
- Knowledge sharing
- Building solutions, packages
- Keep on asking questions
- PHUSE Q&A online book



Stay Adaptable

- Be flexible and willing to adjust plans
 - Working groups
 - Project execution
- Experiment
- Monitor and evaluate



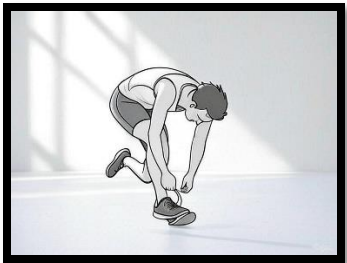
Perseverance

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Conclusion and Next Steps

“Adopting R and open-source tools is a marathon, not a sprint. With preparation, pacing, and perseverance, we can cross the finish line together and achieve open-source success and multilingual confidence”

Preparation



- Set clear goals
- Leadership commitment
- Assess infrastructure

Pacing



- Keep the pace up
- Immerse yourself
- Keep training as you go
- Communicate

Perseverance



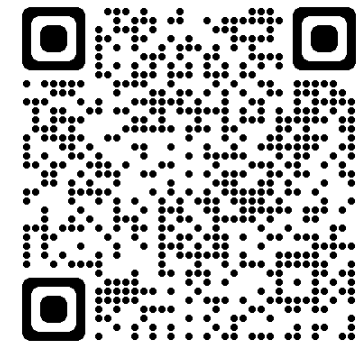
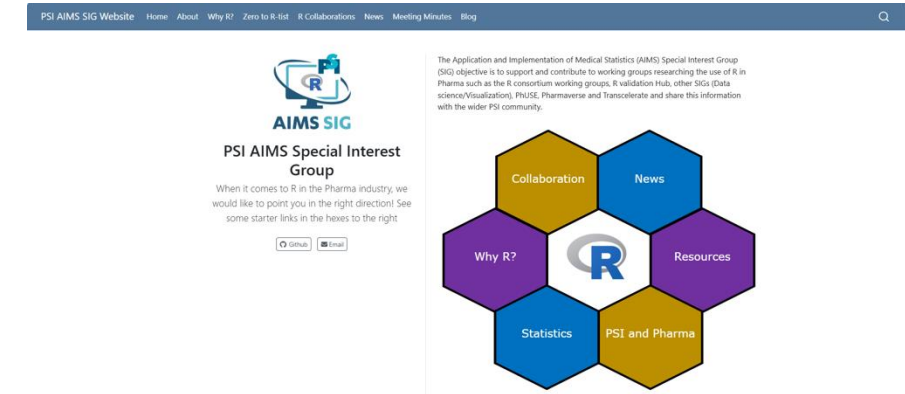
- Face and overcome challenges
- Foster collaboration
- Stay adaptable



Questions?

R Industry Collaborations

- PSI SIGS
 - AIMS – [PSI AIMS Special Interest Group – PSI AIMS SIG Website](#)
 - [Blog – PSI AIMS SIG Website](#)
 - [Open-Source Lunch Bites](#)
 - Openstatsware – [openstatsware](#)
- PHUSE Working Groups
 - CAMIS – [CAMIS - A PHUSE DVOST Working Group](#)
 - Teal Enhancements for Cross-Industry Adoption – [Teal Enhancements for Cross-Industry Adoption - WORKING GROUPS - PHUSE Advance Hub](#)
 - Emerging Trends & Innovation (multiple) – [Emerging Trends & Innovation - WORKING GROUPS - PHUSE Advance Hub](#)
 - pharmaverse – [pharmaverse](#)
- R Consortium [isc-working-groups – R Consortium](#)
 - R Validation Hub – [pharmaR website](#)
 - Submissions Working Group – [Introduction – R Submissions Working Group](#)
 - RTRS – [Tables in Clinical Trials with R](#)
 - HTA Working Group – [RConsortium/HTA-wg](#)



R Industry Webinars / Conference

- R Adoption Series – [Webinars – R Consortium](#)
- R in Pharma – [R/Pharma](#)
- R in Medicine – [R/Medicine 2025](#)
- PharmaSUG – [PharmaSUG – Software Users Group of life science and health research professionals](#)
- PHUSE EU / US Connect – [Archive Page | PHUSE](#) / [SAS Proceedings and more](#)
- PSI Conference – [Home](#)
- Posit Conf. – [posit::conf | R & Python Data Science Conference - Posit](#)
- UseR! – [useR! 2025](#)