

HPC Sustainability: Skills, Diversity & Inclusion



Cristin Merritt, Alces Flight

About me:

- Classics degree from the University of Florida
- Started out running campaigns in local politics in Houston, TX
- Found out I was good at being non-technically technical in 2004 ●



Can also draw moose.



About Alces Flight:

Software and service providers for HPC environment & integration

- Platform Agnostic
- Customer Advocates
- Subscription-Based in Approach



What is Sustainability in HPC?



Sustainability in HPC has four (known) components:

Hardware

*Physical machine(s),
power and location*

Software

*Writing, maintaining and
transforming code*

People

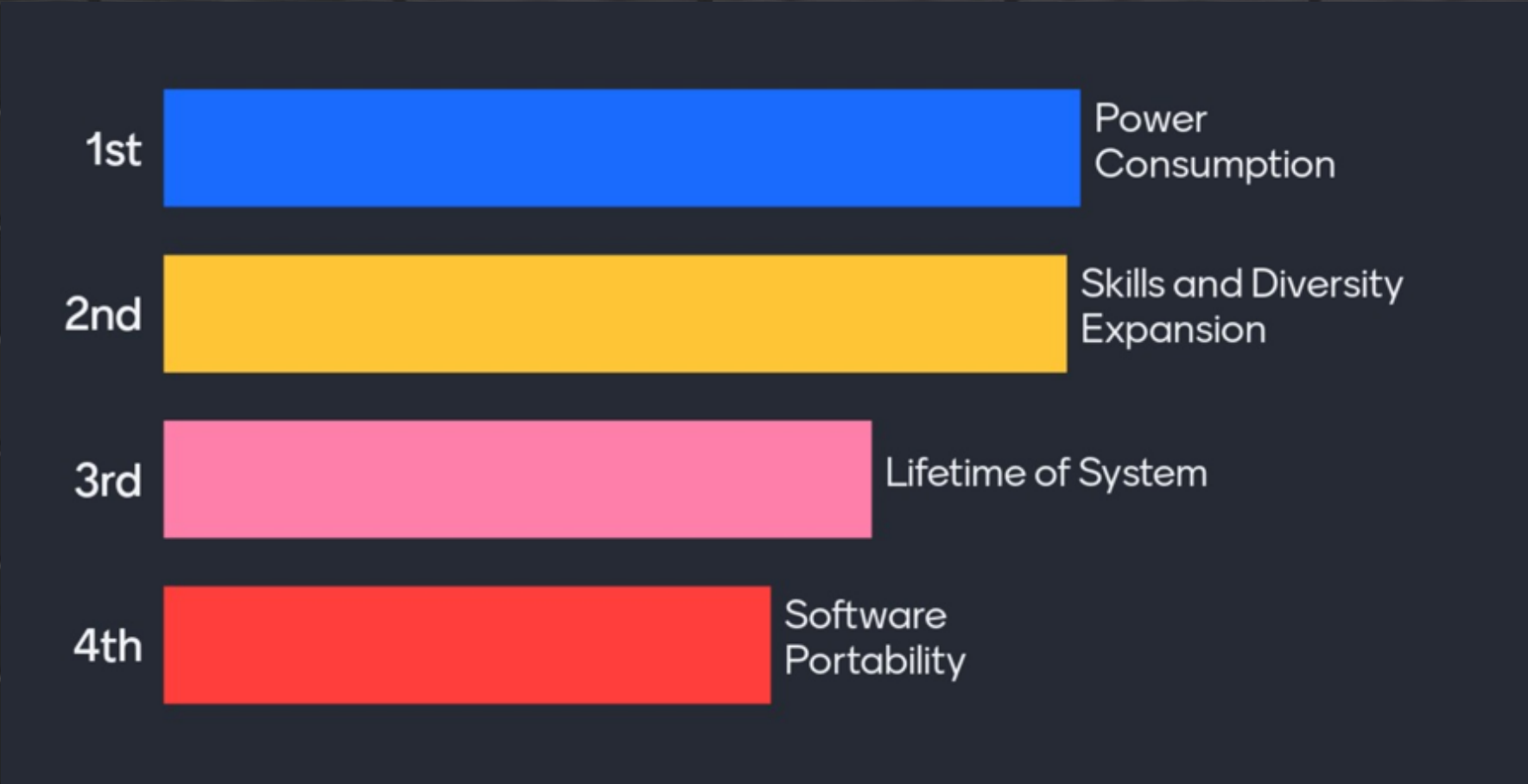
*The glorious humans
who make it all work*

Change

*The thing no one wants
to talk about (unless it's
new hardware)*



Ranking Importance of Sustainability:



47-person response - CIUK - November, 2022



Sustainability in HPC:

Technology

People

If you look at our current community and make-up there is a heavy focus on technology and very little on people... why is that?



Why we're off-balance with people + HPC

- ✓ 60+ years manageable growth
- ✓ Small community
- ✓ But then...
 - ✓ Simplified Data Collection
 - ✓ Public Cloud
 - ✓ Pandemic
 - ✓ AI/ML demand
 - ✓ (lots of things I'm forgetting)

Technology

People



Possible culture differences.

You can't install/run a new toolset.

People are weird.

Might work against intuitions.

They learn differently.

Unique coping mechanisms.



A large, vibrant pink paint splatter is centered on a dark grey brick wall. The splatter is irregular in shape, with a dense, solid pink core and a surrounding cloud of smaller, lighter pink droplets. Several thick, vertical drips of pink paint extend downwards from the bottom edge of the main splatter. The background consists of a grid of dark grey rectangular bricks with visible mortar lines.

But there is hope.



A large, vibrant pink paint splatter is centered on the page, with several drips extending downwards. The background is a dark grey brick wall.

Step one: Look within.



What are your strengths and weaknesses?

- Formal assessment
 - Skills
 - Personality Types
 - Outside Reviewers
- Informal assessment
 - Committees
 - Projects / Side Quests
- Leadership assessment
 - Skills
 - Personality
 - Outside View / Outside Review



What do you aspire to be?

- Mission Statement
- 5-year (or x-year) Plan
- Emulate (not duplicate) List



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Step two: Address Gaps.



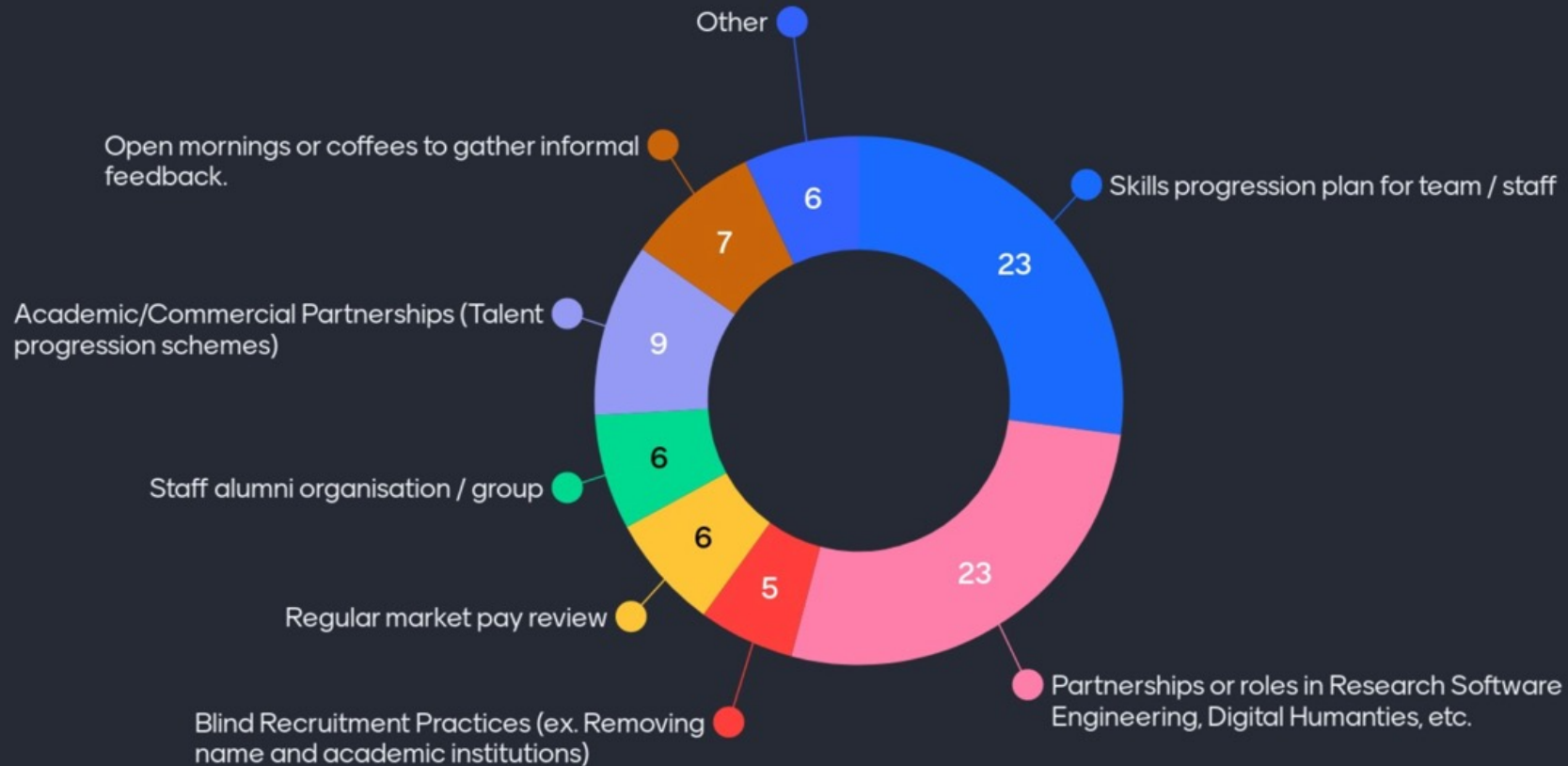
IDEAS!

- Skills progression plan
- Partnerships + Collaborations
- Blind Recruitment
- Regular Market Pay Reviews
- Alumni Group
- Talent Progression Scheme
- Informal/Formal Mentorship
- 5D Leadership
- Lunch + Learn
- DEI staff, team or services
- WHPC Resources
- Coaching and/or Advocacy
- This Presentation + Survey Results!!

★ Remember:

YOU DON'T HAVE TO DO IT ALL





What systems do you have in place to assist with diversity and inclusion?
40-person response– CIUK– November, 2022



A large, vibrant pink paint splatter is centered on a dark grey brick wall. The splatter has a textured, irregular shape with many small droplets and a thick, dripping tail extending downwards. The word "Money." is written in white, bold, sans-serif font across the middle of the splatter.

Money.

Ideas on what to do if you can't win the 'money' argument.



What to consider...

- Can you focus on growing skills?
 - Internship Schemes + Junior Roles
 - Accept 3-5 years in post
- Change your focus?
 - No longer R&D, Test, Production, Optimization... instead pick one or two.
 - Outside partners, vendors and/or collaborators.
 - Managed services and/or support.
- Change how you are perceived?
 - Look at your 'brand.'
 - Look at how your leadership is seen.



“At first I thought I needed to hire a bunch of people like me. Turns out, I needed to hire a bunch of people **not** like me.”



Alan Real

Durham University + N8CIR
WHPC Workshop, SC22 – Dallas, TX



Thank you.



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