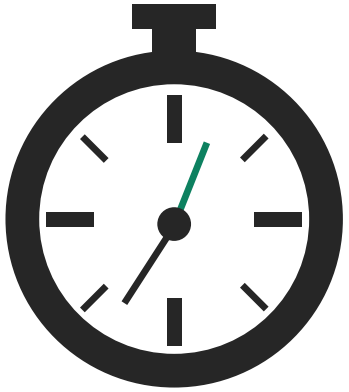
OPERA: Optimizing a potassium-ion electrolyte for revolutionary automotive batteries

Sam Wheeler & Kevin Hurlbutt
Project K Energy, Inc

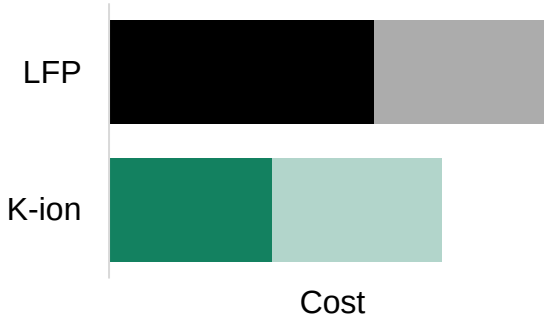
Project K is bringing affordable, fast-charging electric vehicles to new markets of consumers by replacing lithium with abundant potassium in their batteries.

PRoject K

Project K Energy, Inc, is developing potassium-ion batteries for fast-charging electric vehicles and affordable stationary storage while eliminating the rare and expensive elements lithium, cobalt, nickel, and copper.



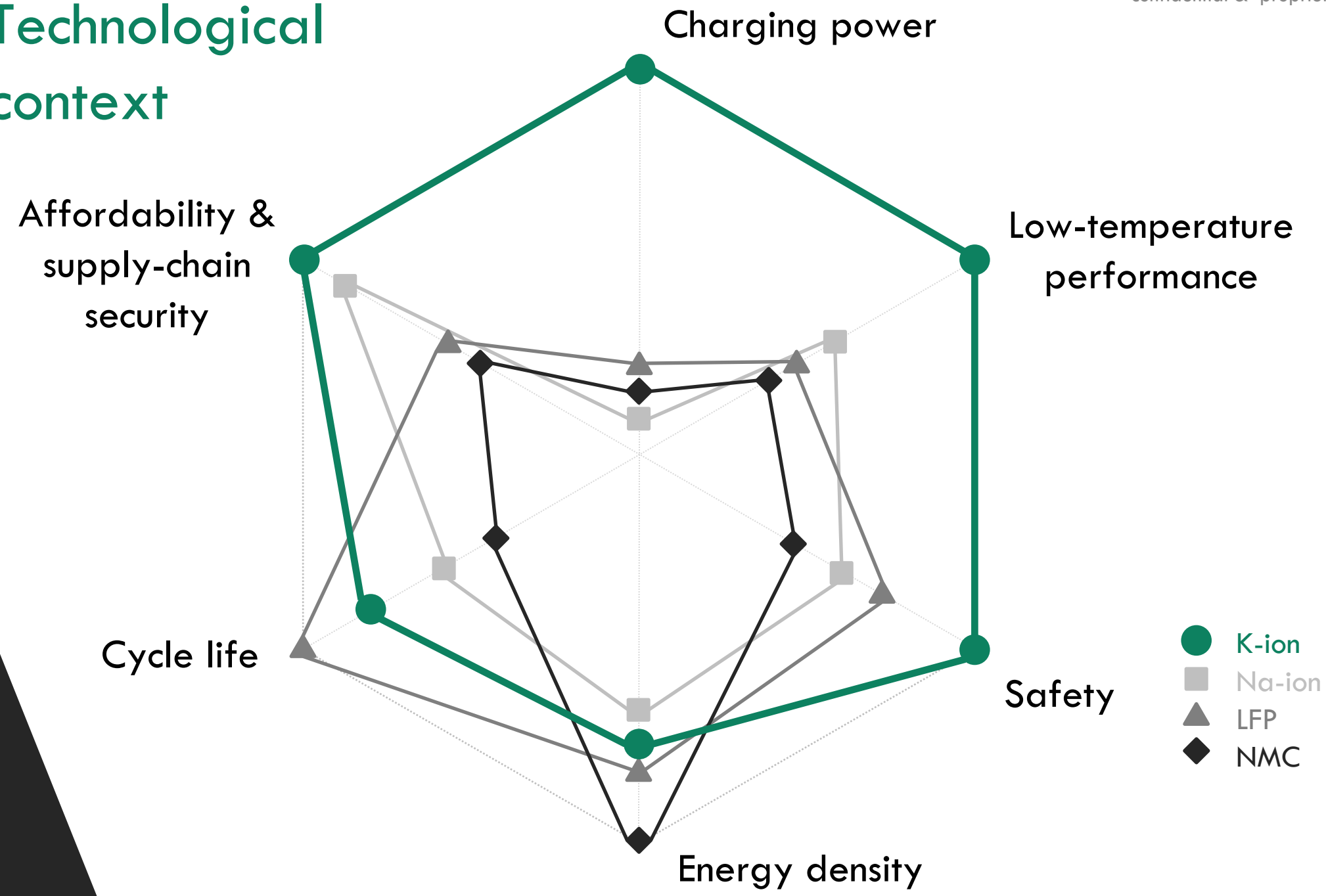
Potassium-ion batteries charge fast, opening new markets of EV consumers without at-home charging.



Potassium-ion batteries are more affordable, making BESSes economical for 12-hour storage and beyond.

Potassium-ion batteries eliminate lithium, cobalt, nickel, and copper for secure supply chains.

Technological context



Addressable markets

Mobile

STELLANTIS †‡

BMW †

Ford

MAGNA

TESLA

gm *

Stationary

FLUENCE * A Siemens and AES Company

Xcel Energy *

ENPHASE

CITY OF PASADENA ★ INCORPORATED JUNE 1886 ★ ‡

† MNDA in place
‡ Letter of support received
* Advised by current or former staff

Kevin Hurlbutt, PhD

CEO & cofounder

- first employee at Cuberg
- expert in battery technoeconomics

Stanford University · University of Oxford · Cuberg · slb

Sam Wheeler, PhD

CTO & cofounder

- world-leader in PBA electrochemistry
- expert in fast-charging graphite
- >1,220 citations

Imperial College London · University of Oxford

Richard Wang, PhD
Advisor
Cuberg

Mei Cai, PhD
Advisor
GM · Fluence (A Siemens and AES Company)

Jessica Andrews, PhD
Battery scientist
USC

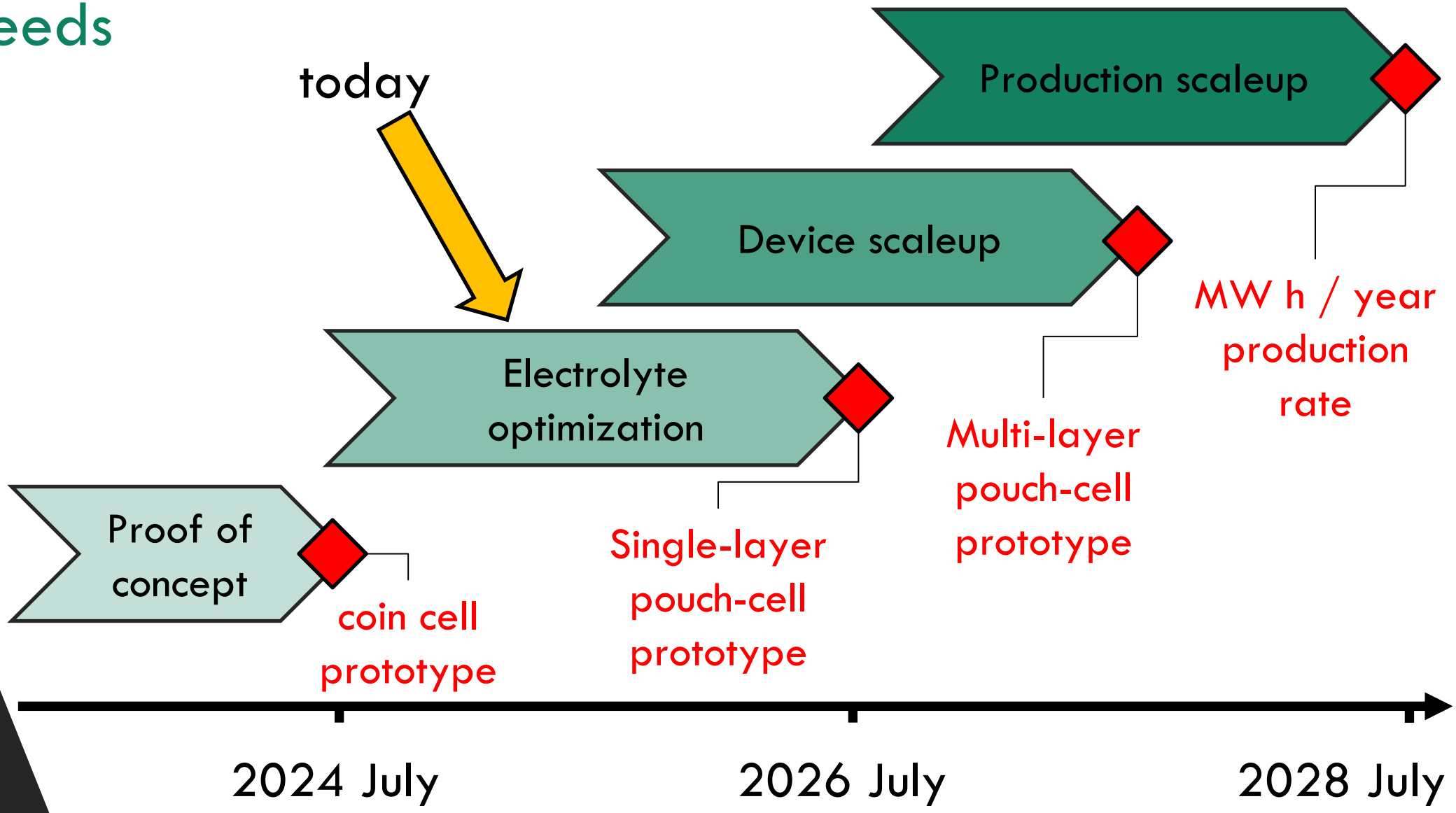
Katherine Martins
Battery engineer
Stanford University

Darby Hickson, PhD
Battery scientist
Cal

Chao Shen, PhD
Senior battery engineer
Wildcat Discovery Technologies

Susan Schofer, PhD
Advisor
SOSV HAX

Roadmap & needs



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