



# Welcome to Saft Jacksonville

Jacksonville Site Presentation



# Overview

Land surface: 4.8 hectares (11.8 acres)

Surface under roof: 22 000 m<sup>2</sup> (235 000 ft<sup>2</sup>)



Dry/clean rooms (ISO 6): 5 300 m<sup>2</sup> (57 000 ft<sup>2</sup>)

Formation/ageing surface: 1 700 m<sup>2</sup> (18 000 ft<sup>2</sup>)

Office area: 1 400 m<sup>2</sup> (15 000 ft<sup>2</sup>)

LEED® Silver certification applied for

# Plant History

- Project Kick-off Dec 2009
- Groundbreaking Mar 2010
- Start construction May 2010
- Construction complete Mar 2011
- Line #1 installed Jul 2011
- Grand Opening Sep 2011
- 1<sup>st</sup> product delivery Dec 2011



# Rooftop Solar Array

- 1.02 MW power output; 4 340 solar modules
  - > 235 watt poly-crystalline Siliken® modules
  - > 115 214 ft<sup>2</sup> (10 704 m<sup>2</sup>) total PV array
- 2 Inverters
  - > Satcon® 500 kW inverters
- 21 miles electrical wiring
- Energy savings, annual
  - > (1 300) MWhr
  - > (903) metric tons CO<sub>2</sub>
  - > (2,100) barrels of oil



# Products - Cells

## ■ Cylindrical – large format (54mm x 224mm)

Various Chemistry NCA and SLFP

- > VL45E – 162 Wh, optimized for energy
- > VL41M – 147 Wh, medium power
- > VL30P – 108 Wh, optimized for power
- > <VL80E> - 288 Wh, optimized for energy : available June 2012
  - Larger diameter ~70 mm



## ■ Prismatic - NMC

- > Cells under development, D-sample available by end-2013

# Products - Solutions



## Energy Storage Systems

- > Intensium Max containers – 580 kWh containerized battery
- > Synerion E modules – 48 V modules, 2.2 kWh
- > Synerion 24/48 modules – 24 V or 48 V modules, 2.0 kWh

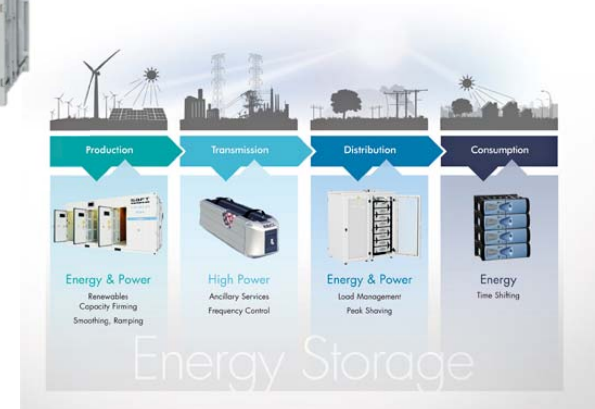
## Telecommunications standby systems

- > Evolion modules – 48 V, 4.0 kWh

## Vehicles Solutions

- > HEVs
- > Heavy duty
- > Scooters
- > Forklift trucks

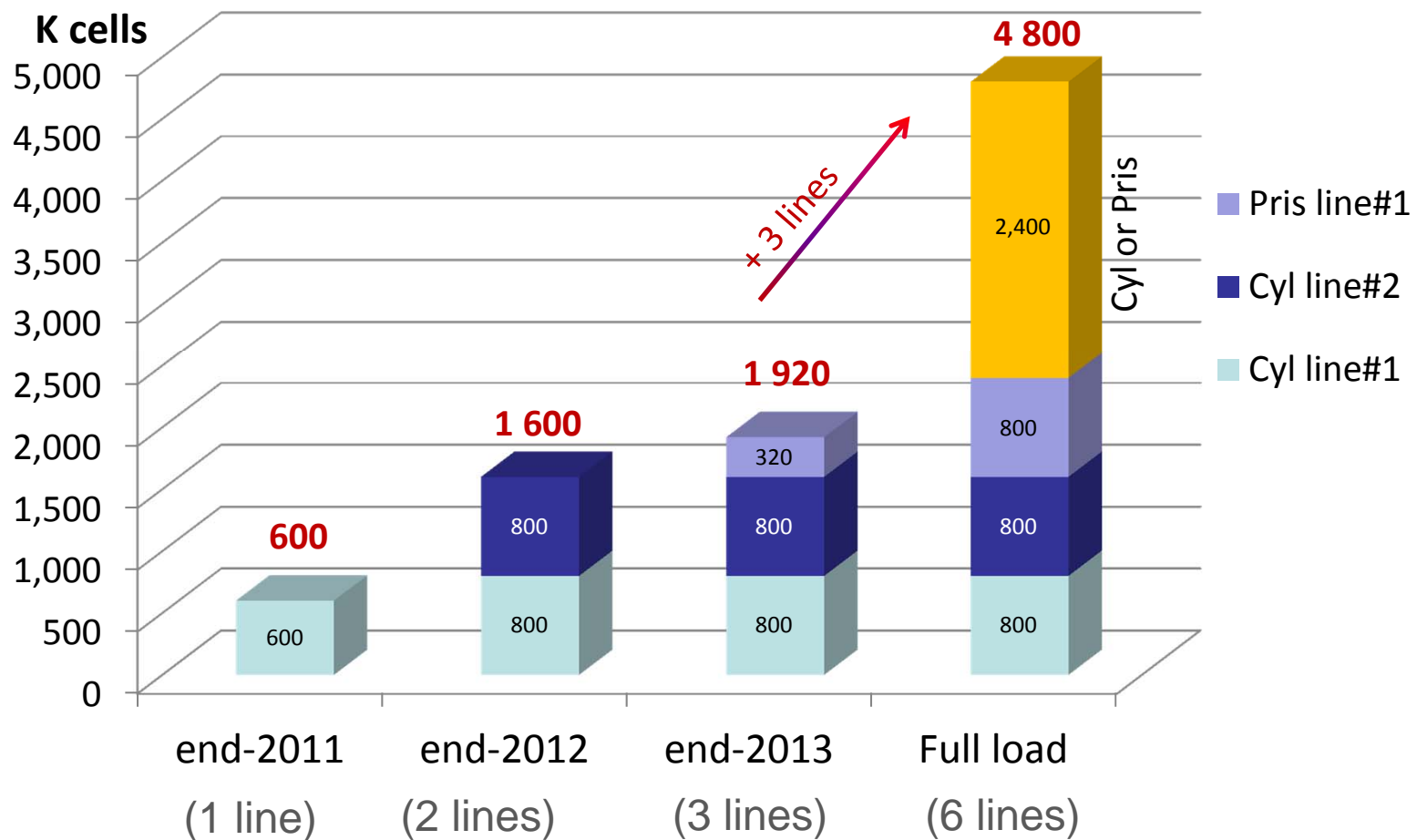
## Aviation



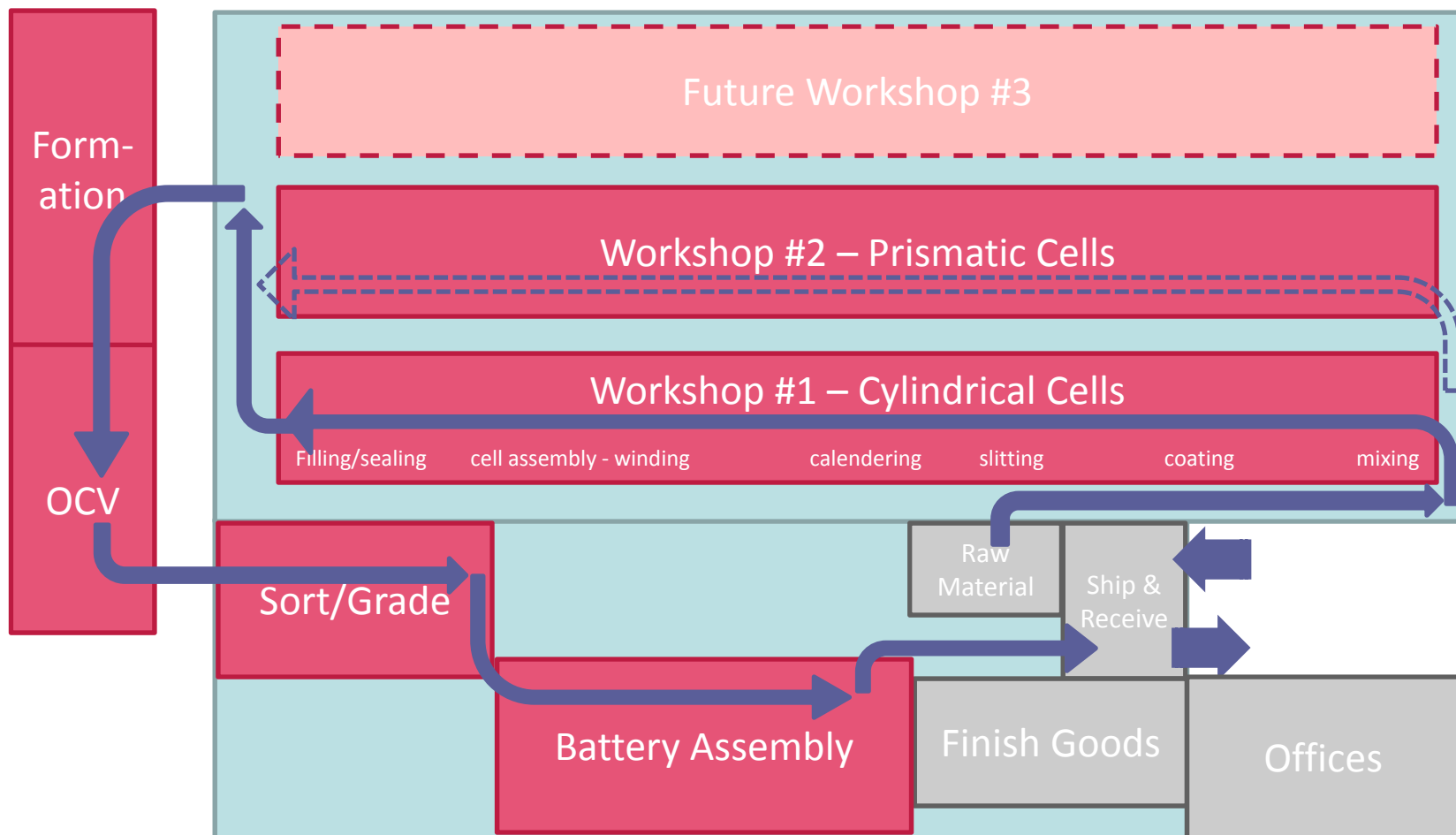
# Jacksonville Factory

## Capacity of Production

Yearly production capacity (5days) up to 4.8M cells



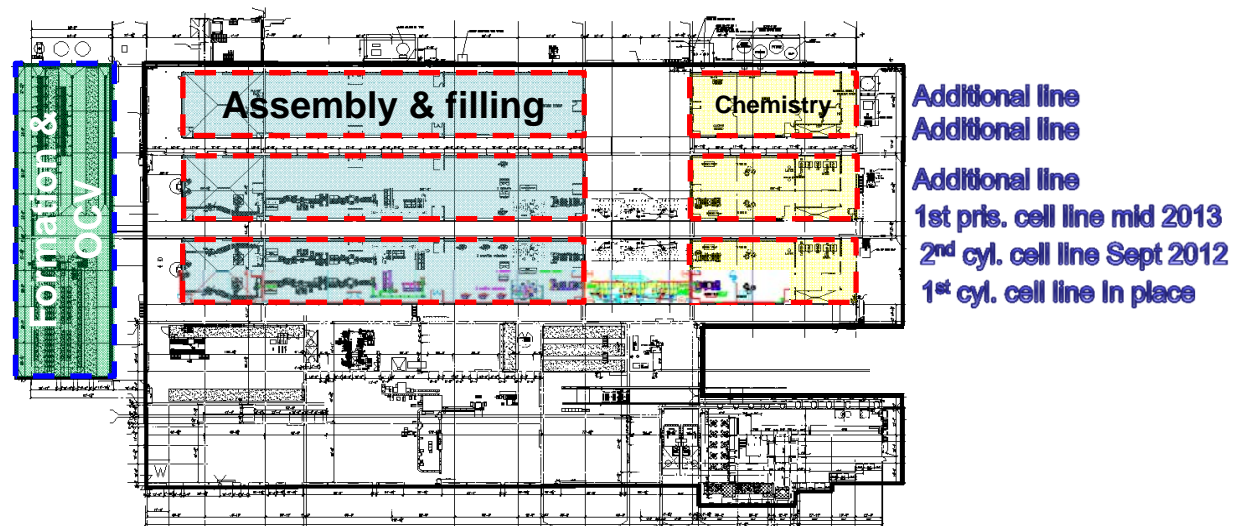
# Product Flow - General





# Production Capability (future investments)

- Expansion capability pre-planned
  - > Workshop #2 can accept additional equipment
  - > Workshop #3 can be added – space reserved
  - > Format (cylindrical, prismatic) – open
- Saft has space for more than 2x the production capacity of the current investment program



# Process environment

## ■ Dry rooms

- > Water is poison for our cells – we keep a dry environment
- > Dew point < -30°C in mixing/coating room
- > Dew point < -40°C in cell assembly and filling rooms
- > Data are continuously monitored by our building control system
- > Water content of electrodes is tested before winding
- > Only properly trained, authorized personnel permitted in dry rooms

## ■ Clean rooms

- > Small particles can cause premature cell failure – we control particles
- > ISO Class 6 or better
- > Strict protocols for control of particles
  - Protective clothing for personnel, control of particles on incoming materials
  - Air flow design – 120 volume changes per hour
  - Frequent cleaning
- > Data are continuously monitored by our building control system

# Our Commitment to Customer satisfaction

## Dedication to **Total quality**

- ISO 9001 in 2012
  - Systems and documentation aligned to the standards
- Continuous improvement through SAFT World Class problem solving methodology
- Develop mutual confidence with our customers



# Plant tour

**THANK YOU**

