Kodak Cell Assembly Center
APPLICATIONS FOR BATTERIES ARE MULTIPLYING
SUSTAINABLE ENERGY GOALS REQUIRE NEW STORAGE SOLUTIONS

2030 Goals

40% Reduction in GHG emissions from 1990 levels
Reducing greenhouse gas (GHG) emissions from the energy sector—power generation, industry, buildings, and transportation—is critical to protecting the health and welfare of New Yorkers and reaching the longer term goal of decreasing total carbon emissions 80% by 2050.

50% Generation of electricity from renewable energy sources
Renewable resources, including solar, wind, hydropower, and biomass, will play a vital role in reducing electricity price volatility and curbing carbon emissions.

600 TBtu Increase in statewide energy efficiency
Energy efficiency results in lower energy bills and is the single most cost effective tool in achieving clean energy objectives. 600 trillion British thermal units in energy efficiency gains equates to a 23% reduction from 2012 in energy consumption in buildings.
Energy Storage Hub
VISION

- A US-based service that will work together to help companies go from the lab to commercial production
- Make energy storage expertise, tools and production capabilities available
- Speed time to market, lower costs, reduce risks and serve the market better than ever
KODAK CELL ASSEMBLY CENTER
DIFFERENTIATORS

**Connected Services**
- Coating, assembly, and testing all in one location
- Partnered with other organizations

**Flexible configurations**
- Multiple process/product configuration options
- Compatible with wide range of materials

**Multiple scales**
- Small-scale for material/product development & design
- Large-scale for manufacturing process development and pilot production

**Knowledgeable operating staff**
- Material/process interactions
- Product defect identification and resolution
ENERGY STORAGE HUB IMPROVES DEVELOPMENT

PAST
- 4.5 – 9 YEARS
- $8 - $12 MILLION
- CHANGING MARKETPLACE & EXPENSIVE TRANSPORTATION
- GREATER EFFICIENCY REDUCES RISK
- COMMUNICATION GAPS

NOW
- 2 YEARS
- $1.4 MILLION
- OPPORTUNITIES FOR COLLABORATION
## THE ENERGY STORAGE HUB

<table>
<thead>
<tr>
<th><strong>POLARIS BATTERY LABS</strong></th>
<th><strong>BATTERY PROTOTYPING CENTER AT RIT</strong></th>
<th><strong>KODAK COATING SERVICES</strong></th>
<th><strong>KODAK CELL ASSEMBLY CENTER</strong></th>
<th><strong>BEST TEST &amp; COMMERCIALIZATION CENTER</strong></th>
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<tr>
<td>provides laboratory facilities for companies with new lithium ion battery technologies to facilitate making product samples</td>
<td>focuses on development of emerging energy storage technologies</td>
<td>helps clients scale-up new materials from lab/bench to production using low cost roll-to-roll processes</td>
<td>helps clients assemble batteries for testing and commercialization</td>
<td>operated by DNV-GL, tests energy storage devices throughout a range of conditions</td>
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**Polaris Battery Labs**

**RIT Institute of Technology**

**KODAK**

**NY BEST+**

**DNV-GL**
KODAK CELL ASSEMBLY CENTER
DEVELOPMENT & MANUFACTURING

Cylindrical Process Steps
- Jelly Roll Winding
- Laser Welding or Crimping
- AA to D can sizes

Prismatic Process Steps
- Flat Winding / Plate Stacking
- Pouch Forming / Heat Sealing
- 25 mm² to 150 mm² pouch

Ultra-capacitors
- 18650 to 3k Farad cans

Formation
- (512) Channels up to 1 Amp rate, clamping for pouch cells
- (15) High Current Channels to 300 Amps
ENERGY COMPANIES AT EASTMAN BUSINESS PARK
KODAK CELL ASSEMBLY CENTER