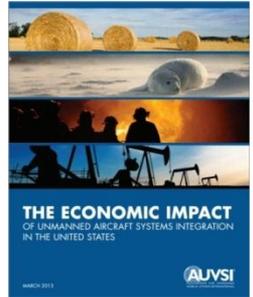


FedEx, Rolls Royce and UPS know  
And so do Google, Facebook,  
Amazon and Intel...

# The next great U.S. industrial cycle

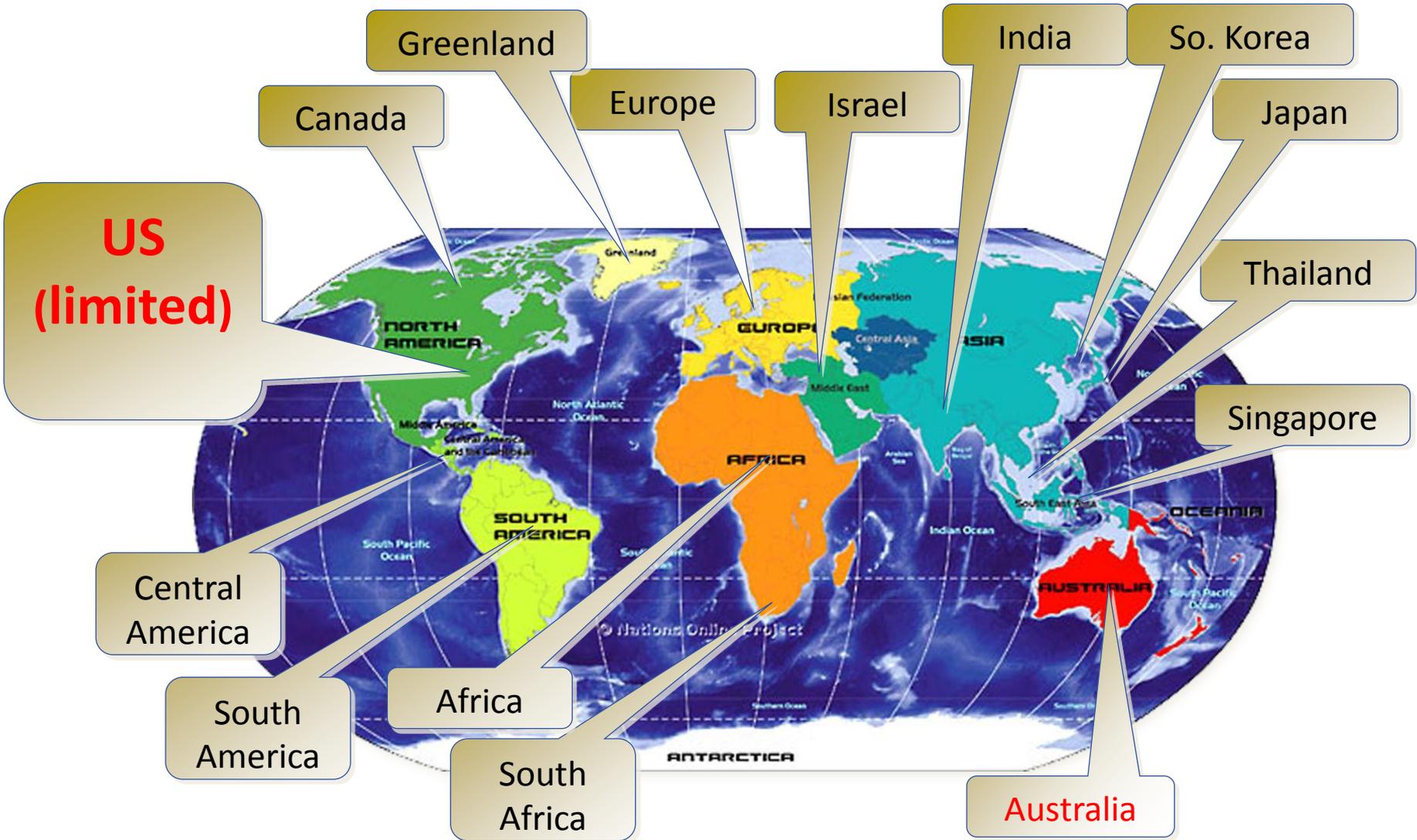
- AUVSI's 2013 Economic Report:

- [www.auvsi.org/econreport](http://www.auvsi.org/econreport)



- The UAS global market is currently **\$11.3 billion**
  - Over the next 10 years, the UAS **global** market will total **\$140 billion**
  - The economic impact of US airspace integration will total over \$13.6 billion in the first three years and will grow sustainably for the foreseeable future, cumulating to more than \$82.1 billion between 2015 and 2025
  - Must happen. FMRA (2012). Loss of U.S. leadership to international competitors. Money.

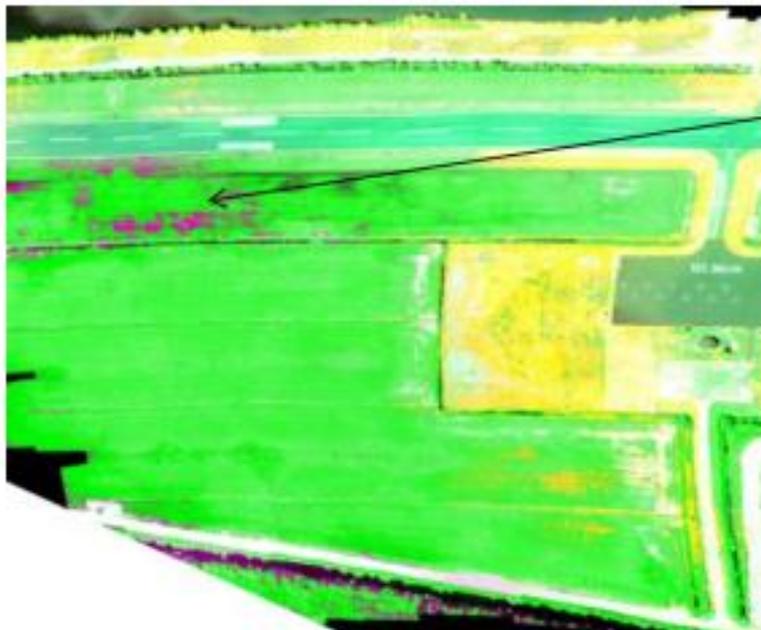
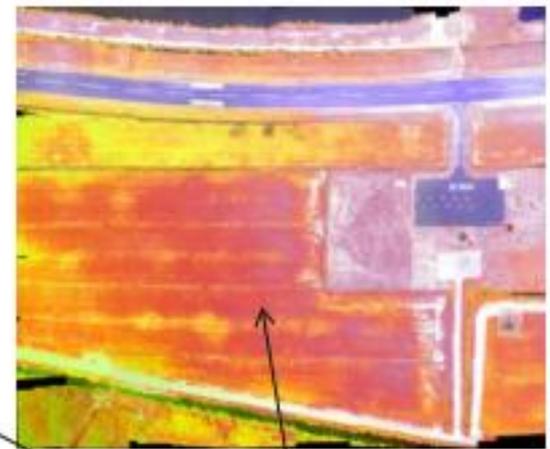
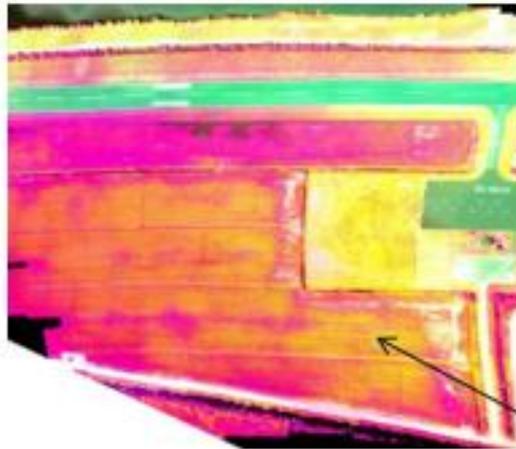
# UAV/UAS– a worldwide phenomenon



# UAS industry growth will be driven by data-intensive management tasks...

- Crop management (examples to come)
- Infrastructure management (dams, pipelines, power lines, bridges and roadways)
- Natural resources management (forests, public lands, wild life, oceans and atmosphere)
- Communications (remote area and mesh networks, atmospheric satellites)
- Not by deliveries!

# The new agriculture is data intensive



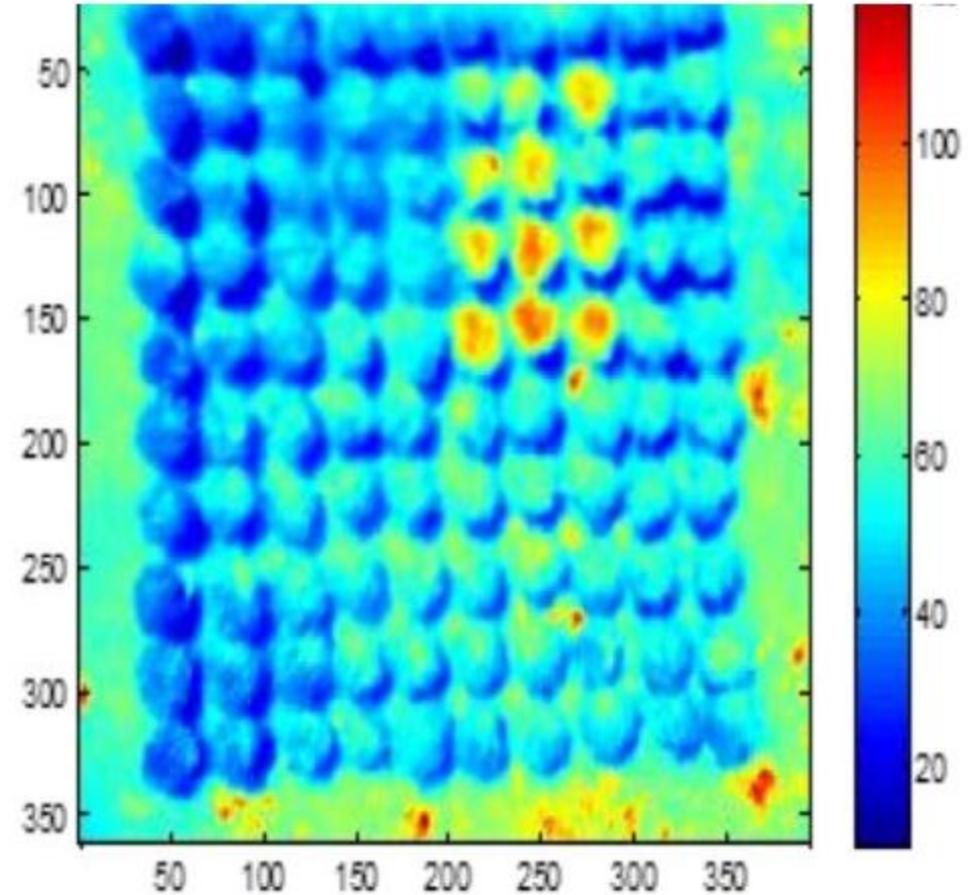
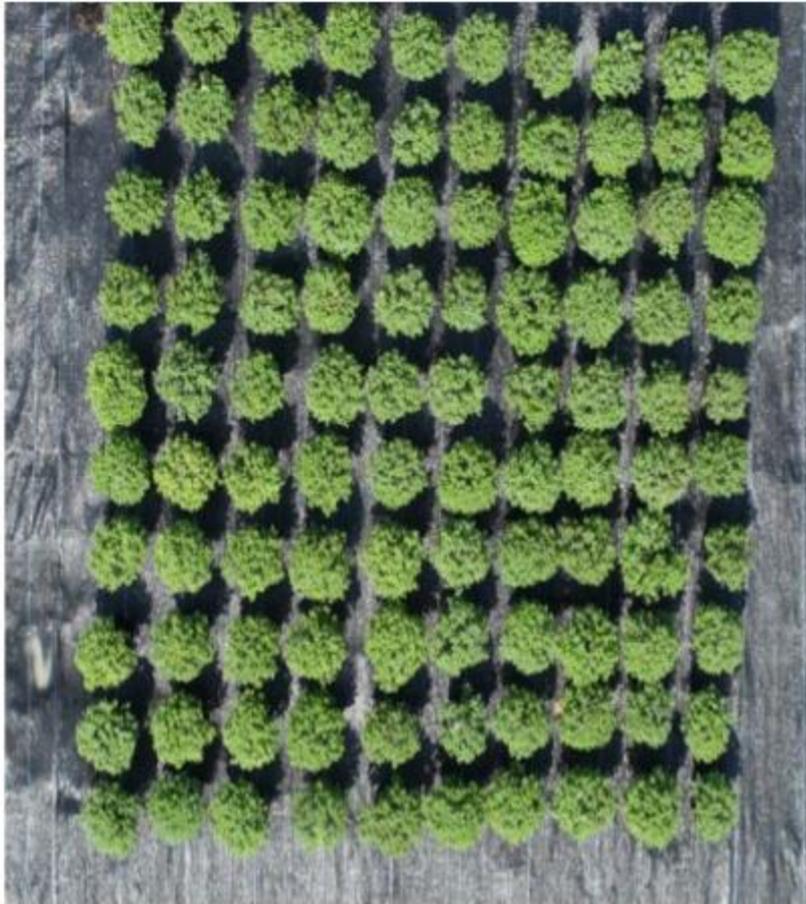
Standing Water

Dry Area

False color allows detection of anomalies that are not visible to the human eye and standard visual cameras

Source Gary McMurray Ga.Tech. Research Institute

# Crop characterization



Source: R. Ehsani, University of Florida

UAS Can Detect Stressed Oregon Orchard Fruit Trees

There will be some early “deliveries”



# ...job creation across many supply chain sectors

- Electronics, avionics, sensors
- Computing, software and chips
- Precision machining, composites, battery technology
- Education

# What it might look like in Oregon

## OREGON TEST RANGE FACILITIES

### TILLAMOOK

Cool maritime climate for flight test  
Specialty crop precision agriculture  
Disaster management  
Wildlife surveys and management  
High altitude missions  
Long endurance missions to Hawaii and Alaska Ranges  
All airspace except Class B

### WARM SPRINGS

Forest and wildfire  
Infrastructure management  
River, wildlife, management  
Earth sciences  
Sensor development  
Search and rescue

### PENDLETON

Large scale precision agriculture  
River environs  
Robust UAS infrastructure  
Specialty testing  
Low population densities, year round flying



# In Oregon

	Number of organizations showing growth	Total hires (includes hires from Column 1 organizations + standard industry multiplier effect)	Wage Range	Total Impact (standard multiplier included). First 3 years of functional ranges
<b>State-wide</b> range-stimulated activity, excludes direct test range activity	64	1,194	\$45,000 - \$160,000	\$79,631,076
Direct test range activity	22	317	\$45,000 - \$150,000	\$77,867,397
<b>TOTALS</b>	<b>86</b>	<b>1,511</b>		<b>\$157,498,473</b>

# Salary impact

2013 Oregon UAS Salaries Vs. Other Industries	
Industry	Average Salary
UAS	\$68,000
Healthcare	\$44,000
Agriculture	\$24,000
Tourism	\$17,000
State Avg. Wage	\$45,780

*Source: 2013 report by Gorge Tech Alliance for five-county area around Hood River; state number from U.S. Bureau of Labor Statistics*

# History repeats

- 1926 Air Commerce Act

Pre - ACA	Manned Aviation Era (USA)
Flight procedures, aircraft altitude separation, airways - nil	87,000 flights per day
Aircraft identification - nil	300,000 registered aircraft, 7,000 commercial airliners
Type certifications, airworthiness, manufacturer certifications – nil	Support an industry of approx. ~\$200 Bn
Pilot, controller, technician training –nil	Half a million active certified pilots
Aids to navigation - nil	In place, to be followed by NextGen
Grass airstrips, a few thousand passengers, a few hundred thousand pounds of mail (annual)	14,000 airports, 3.3 billion passengers (globally), 50 million tons of cargo

# 2012 FAA Modernization Act

Manned Aviation Era Pre – Modernization Act (2012)	Manned and Unmanned Aviation Era Post – Modernization Act.
Flight procedures – in place	TBD – NEW
N-numbers (VIN numbers) – in place	TBD – NEW
Type certifications, airworthiness, manufacturer certifications – in place	TBD – NEW
Pilot, controllers, service technician training – in place	TBD – NEW
Control and communication – in place	TBD – NEW
Aids to navigation – in place	TBD – NEW
Data collection/analysis, largely N/A	TBD – NEW <sup>7</sup>

# SoarOregon

- A statewide booster for economic development centered on UAVs
- Operational since Feb 2014
- Build up of the Oregon Test Ranges as a State asset
- Grants for industry
  - First \$325,000 for critical problems and issues in large scale precision ag (sensors, frames, data), avionics (integrated autopilot and ADS-B transponder), servos and propulsion units for flight vehicles



**WE WANT YOU!**

# Your part

- Open engagement – high levels of communication, feedback, information flow, ideas
- FAA, NASA, Test Ranges, Department of Defense will help move us from “no flights”, to crawl, to walk, to run – **NO COMPROMISE TO SAFETY**

# Seeking an “air boss”

## Preferred Experience:

- 10 – 15 years demonstrated progressive success in an aviation/aerospace environment
- Nationally recognized for demonstrated success in progressively senior leadership positions within an aviation/aerospace environment, including complex teams and programs
- Demonstrated success in FAA Type Certification Programs (Supplemental Type Certificate, Technical Standard Order Certification programs are applicable) of manned, civil aircraft
- Demonstrated positive relationships with FAA Aircraft Certification Office(s), MIDO(s), and FSDO(s)
- Demonstrated performance in budget and project management
- Understanding of best practice in an RDTE environment
- Understanding of public funding sources and processes
- U.S. Citizen or Permanent Resident Alien (ITAR and EAR considerations)

## Preferred Qualifications (demonstrated qualifications or performance in any of the following):

- Experience in both manned and unmanned aviation
- Qualified Flight Test Pilot (SETP and/or military)
- Qualified Flight Test Engineer (SFTE and/or military)
- FAA Designated Engineering Representative
- FAA Designated Airworthiness Representative
- FAA Commercial Pilot or higher flight rating or other experience with direct experience in flight or flight operations

**THANK YOU!**



A dark blue banner containing three logos. On the left is the NSC logo, which includes the text 'NSC' in large white letters, 'Near Space Corporation' below it, and 'Tillamook UAS Test Range' at the bottom. In the center is the Pendleton UAS Range logo, featuring a white silhouette of a person in a dynamic pose within a circular border containing the text 'PENDLETON UAS RANGE'. On the right is the Warm Springs URS Test Range logo, which consists of three white teepee icons above the text 'Warm Springs URS Test Range'.

