



**HEXAGON**

empowering an autonomous future

# State of Oregon- Hexagon Content Program Overview

Jamie Curtin

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# Our businesses each play a unique role in contributing to our mission and vision and driving sustainable value creation

## Manufacturing Intelligence

Converging design and engineering, production and metrology solutions to enable smart factories for digital transformation.



## Asset Lifecycle Intelligence

Transforming unorganised information into smart digital assets to visualise, build and manage structures and facilities.



## Autonomy & Positioning

Pioneering end-to-end solutions for assured positioning and correction for land, sea and air.



## Mining

Solving the toughest surface and underground challenges with proven technologies for planning, operations and safety.



## Agriculture

Enabling better planning, efficient execution, precise machine controls and automated workflows with advanced technologies.



## Xalt Solutions

Accelerating digital transformation by solving workplace challenges with the industry's most agile framework.



## Geospatial

Delivering 5D smart digital worlds with location intelligence that conveys what was, is, could be, should be and will be.



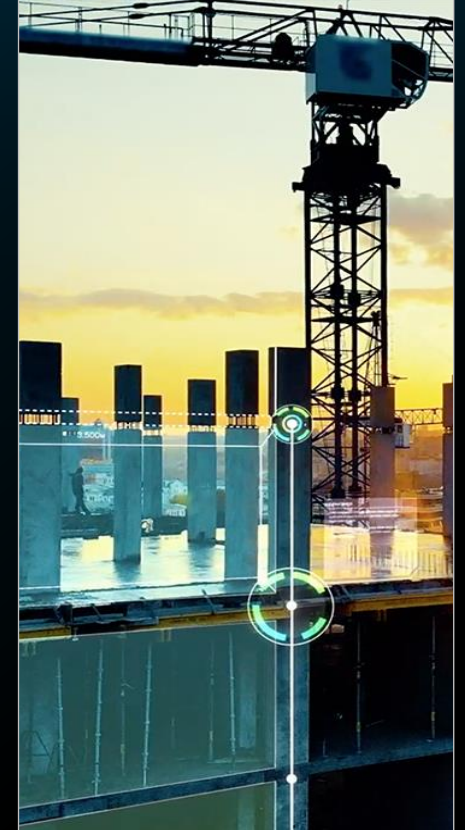
## Safety & Infrastructure

Improving the performance, efficiency and resilience of vital services with software solutions for smart and safe cities.



## Geosystems

Creating smart digital realities from different views with powerful technologies that capture, measure and visualise data.



# Hexagon's Geosystems division

## Surveying

Helps surveyors be more efficient and provides innovative workflows to meet client's needs with fewer resources.



## Building

Creates value for the building industry by delivering a portfolio of information, collaboration and visualisation technologies.



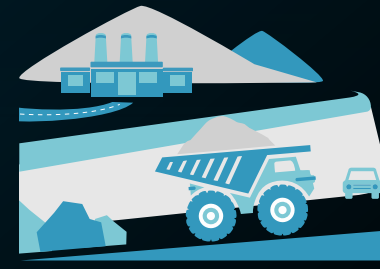
## Heavy Construction

Helps contractors win, execute and complete more work on time, on budget and on specification.



## Mining

Creates safer, more productive mines by delivering integrated life-of-mine solutions that optimise design, planning and operations.



## Geospatial Content

Provides access to innovative airborne sensing technology and high-quality geospatial data to various industries.






# HxGN Content Program

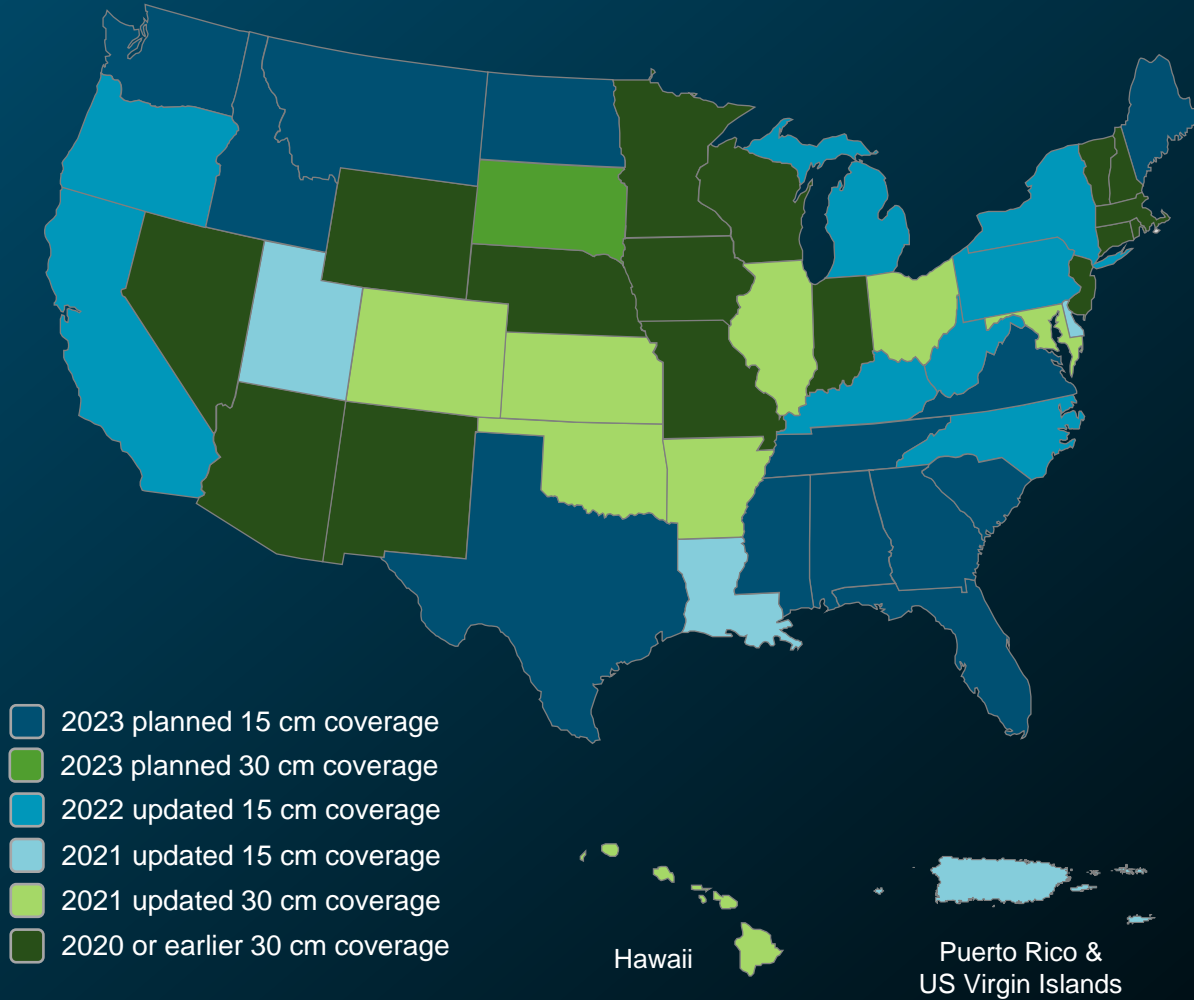
The largest library of high-resolution aerial imagery, elevation data, 3D models and analytics across North America and Europe.

The aerial data is orthorectified, accurate and available at multiple resolutions.

 Salem, Oregon, US



# United States coverage map



- 2023 planned 15 cm coverage
- 2023 planned 30 cm coverage
- 2022 updated 15 cm coverage
- 2021 updated 15 cm coverage
- 2021 updated 30 cm coverage
- 2020 or earlier 30 cm coverage

**100%**  
complete  
coverage of  
contiguous  
United States

**8,052,144 mi<sup>2</sup>**  
total 30 cm resolution coverage

**1,601,311 mi<sup>2</sup>**  
total 15 cm resolution coverage

## 2022 Refreshed Data

**657,337 mi<sup>2</sup>**  
updated data

**10**  
updated states

## 2023 Planned Collection

**1,150,677 mi<sup>2</sup>**  
planned collection

**14**  
planned states

# HxGN Content Program's ecosystem

## FLEET



## PRODUCTION

**19+ MILLION**  
square miles of data  
processed since 2014



## PARTNERS



**32**  
authorized resellers



**5+**  
acquisition partners



**7**  
processing teams

## DATA

**>2 PB**  
raw data collected  
in 2022









**1 BILLION**  
images streamed  
per month

**2500+**  
CPU cores

**100 GB**  
network  
speed

**22 PB**  
working  
storage

# Serving various industries and applications

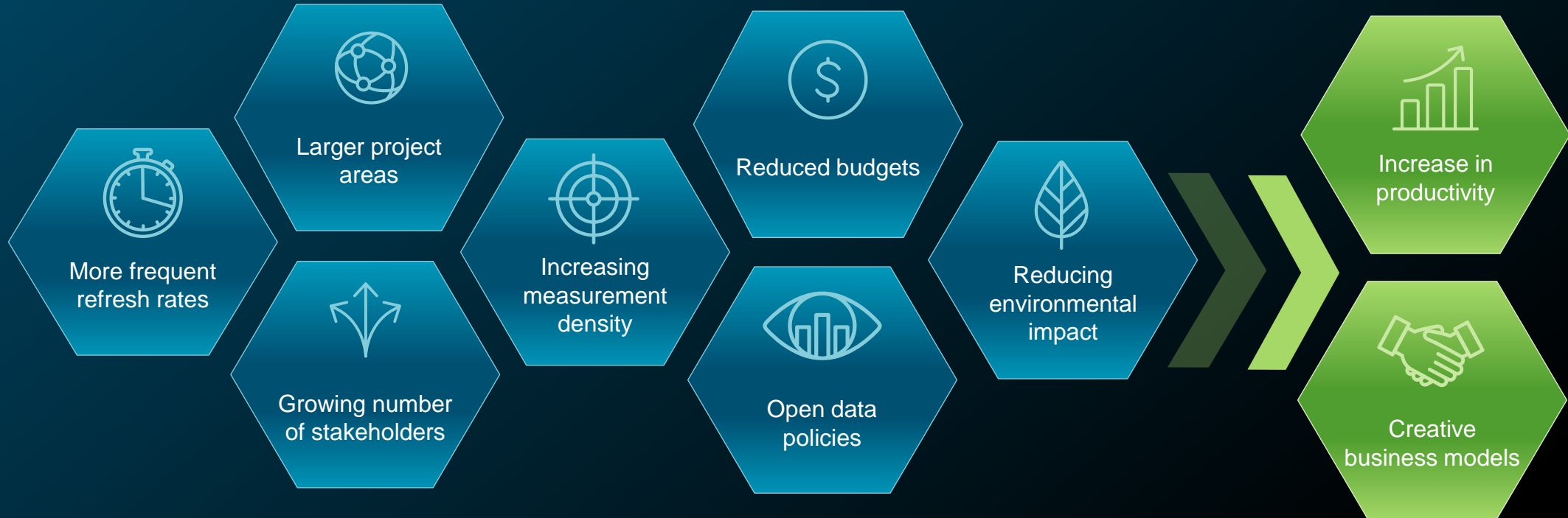
<b>Government</b> 	<b>Utilities</b> 	<b>Telecommunications</b> 	<b>Transportation</b> 
<b>Insurance</b> 	<b>Public Safety</b> 	<b>Environmental</b> 	<b>Automotive</b> 

Exceptional consistency over large areas makes our data ideal for large-volume analytics, feature extraction and training machine learning algorithms.

We provide for applications such as urban planning, asset management, public safety, utility mapping, app development, and many more.

# Geospatial industry trends

Current and emerging observations and response





# Leica CityMapper-2 hybrid aerial sensor

Benefits in the individual components and the hybrid approach

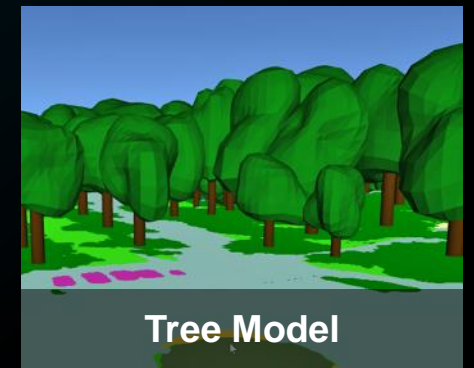
- Hybrid sensor allows for products derived from best of breed technology
  - Use strengths of imagery and lidar
  - High accuracy (imagery x, y and lidar z)
- Acquisition speed and maintain data quality
- Ability to cover large areas at high resolution
  - Forward motion compensation
  - **Nadir and Oblique 150MP**
  - Circular Pattern Lidar
  - **2 MHz Laser**
  - MPIA Gateless Technology
- One flight for everything you need
  - Multiple modalities
  - Co-registration
  - Temporal consistency



Leica CityMapper-2

# HxGN Content Program's Metro HD data offering

Ultra-high-definition 2D data and 3D digital twins of major cities



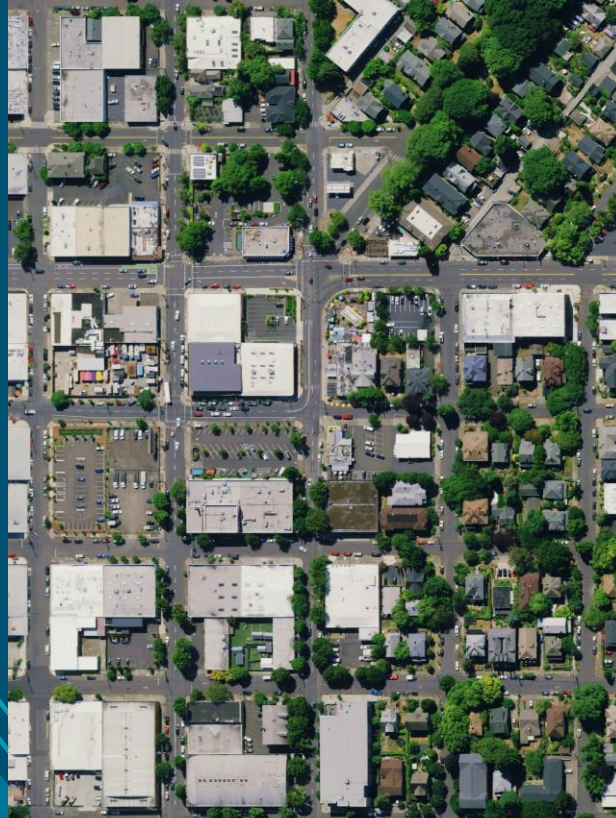
# Leica CountryMapper hybrid aerial sensor

## Benefits in the individual components and the hybrid approach

- Hybrid sensor allows for products derived from best of breed technology
  - Use strengths of imagery and lidar
  - High accuracy (imagery x, y and lidar z)
- Acquisition speed and maintain data quality
  - **35K pixel cross track**
- Ability to cover large areas at high resolution
  - Forward motion compensation
  - Circular Pattern Lidar
    - **2 MHz Laser**
  - MPiA Gateless Technology
- One flight for everything you need
  - Multiple modalities
  - Co-registration
  - Temporal consistency

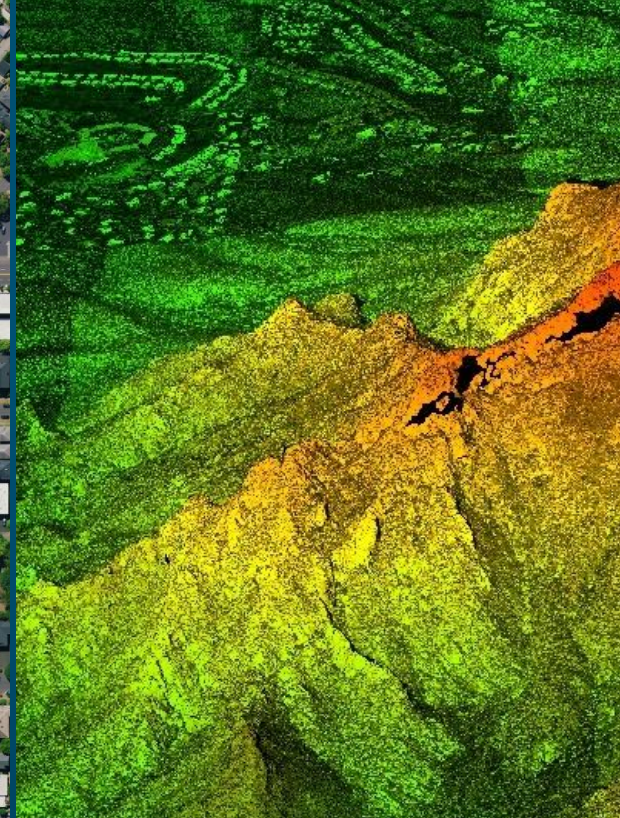


# Standard data products



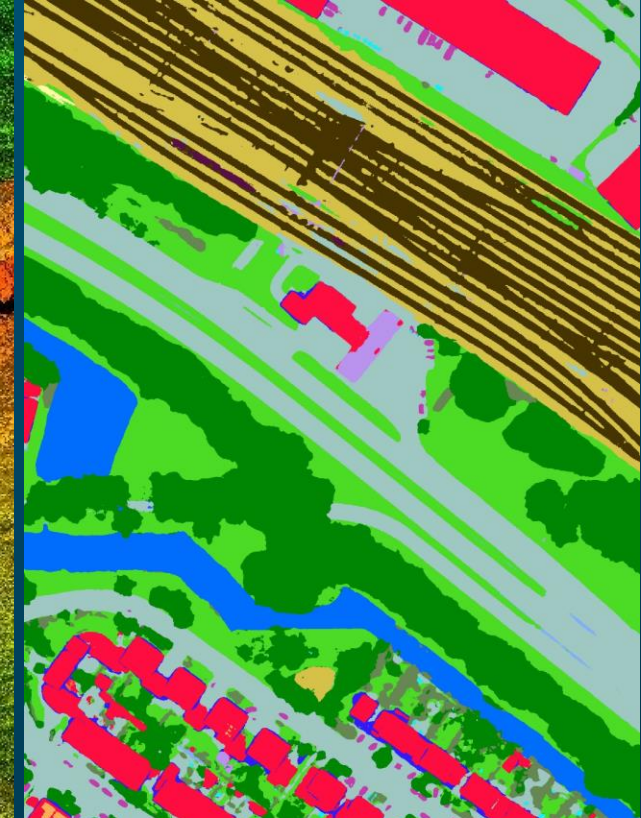
## Orthophotos (4-band)

- 15 cm GSD wide area
- Minimized Building lean in urban
- Available for streaming & download
- Ideal as a land base for GIS applications



## Elevation Products and Stereo Imagery

- DSM and Stereo imagery available for 30 and 15 cm GSD data
- Coast-to-coast coverage of the United States
- Ideal to extract 3D vector maps and clutter



## Machine Readable Data

- Consistency and positional accuracy
- Great licensing terms
- Ideal training data set for automatic feature extraction and analytics

# Licensed off-the-shelf aerial data



Leaf-on, 4-band orthoimagery of the United States & Western Europe



15 cm resolution statewide in the US



3-year refresh schedule



Variety of 2D and 3D aerial data products



Eliminate the need for IT and data storage

# Content+ offering for state governments

*Licensed data tailored  
to your needs*



Leaf-off imagery acquisition



Increased refresh cycle per AOI or statewide



Higher imagery resolution



Flexible buy-ups for additional geospatial data products



Eliminate the need for IT and data storage



Leverage existing or new data specifications

# Content+ offering for state governments

Flexible imagery program that meets states needs



**Maintain or expand data** characteristics of current state program



**Public domain availability** old vintage 30 cm resolution



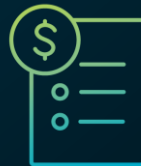
**Accurate and comprehensive** data products



Deliver to all state stakeholders under **flexible user terms**



Deliver to stakeholders via **convenient streaming services**



**Flexible** payment options and **cost savings**

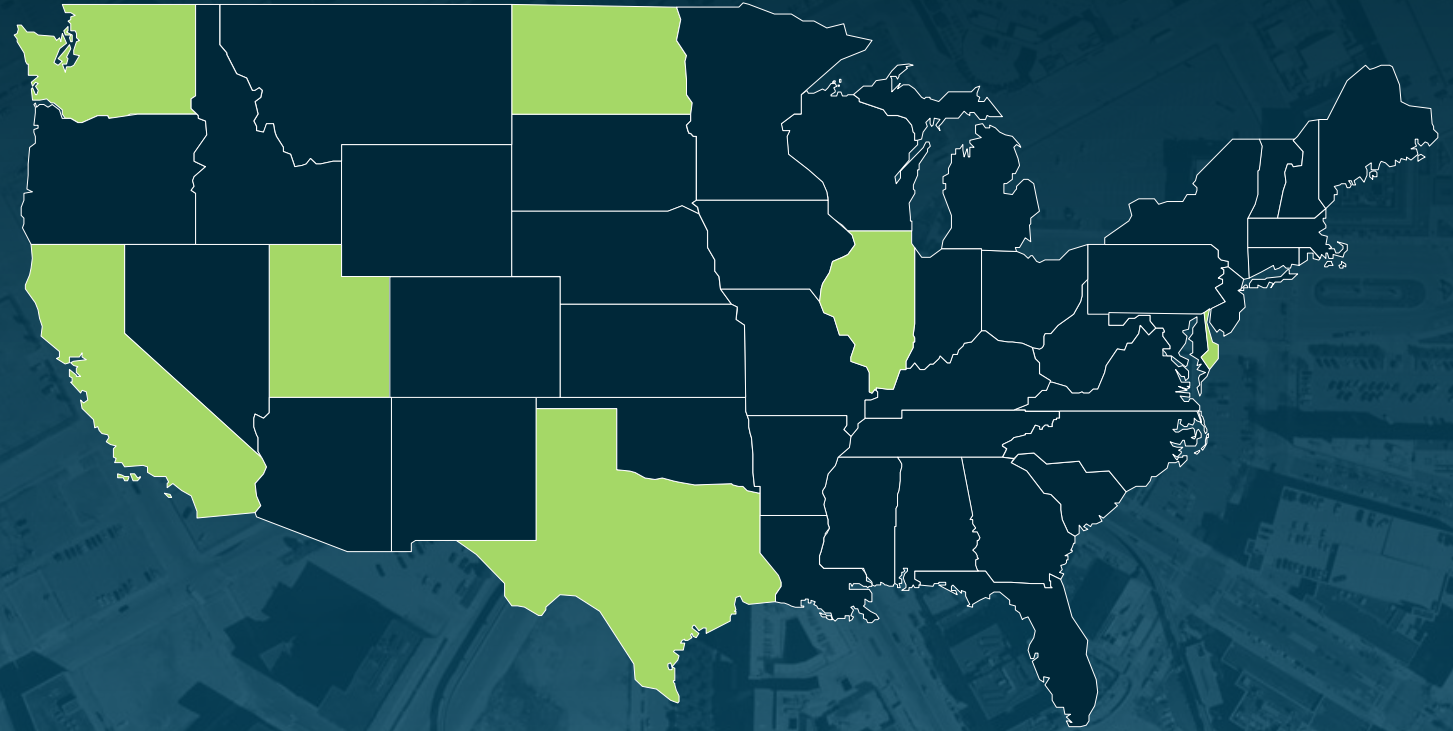


Build **analytics** to gain **insights** on data



Build **relationships** and focus on delivering to state **customers**

# HxGN Content Program's U.S. state partners







# Thank You

**Jamie Curtin**

VP, Global Content Sales  
jamie.curtin@hexagon.com



HxGN Content Program



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