

## Nathe, Mike R.

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**From:** Don Larson <dlarson@Odney.com>  
**Sent:** Thursday, February 16, 2023 8:44 AM  
**To:** Nathe, Mike R.  
**Subject:** Grand Sky Numbers

Here is an overview. Please let me know if you have questions or need additional information.

### Current Stats:

- Jobs
  - 477.7 jobs (Direct, Indirect, Induced)
  - Direct jobs grew from 200 to 231.7
  - Average salary (Direct) - \$123,422.70
- Taxes
  - \$1,030,000 Annually in State and Local (2020) from Operations
  - \$2,106,289 Annually in State and Local (2022) from Operations
  - \$952,127 from Construction during period
- Leverage
  - \$3.57 of private capital invested for every \$1 from North Dakota, growing to \$3.60 for every dollar if 2023 request is funded in full

The =funding from the legislature will enable the growth outlined below.

### Jobs

- +100 Direct
- +60.4 Indirect
- +68.7 Induced
- 706.8 Total with current jobs and new jobs

### Taxes

- +\$1,500,000 from annual operations (est)
- +3,000,000 from construction (est)
- +\$0.06 (\$3.63 total) of private capital invested for every \$1 from North Dakota from every dollar invested to date

Thanks,

Don

**Nathe, Mike R.**

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**From:** Effertz Hanson, Maria K. <meffertz@nd.gov>  
**Sent:** Friday, April 21, 2023 11:19 AM  
**To:** Bekkedahl, Brad; Wanzek, Terry M.; Martinson, Bob W.; Nathe, Mike R.; Swiontek, Steve; Hogue, David J.  
**Cc:** Teigen, Joshua L.; Kinnischtzke, Levi; Widmer, Alison J.  
**Subject:** federal dollars for IJJA and IRA

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Committee members;

I want to apologize and clarify the amount of funds we need to accept for IJJA and IRA for weatherization and state energy program. There was an error in communication regarding the total dollars.

I am asking to modify the amount of federal authority and ability to expend to \$120 Million (was previously \$210 Million). This amount would cover the allocated dollars plus any expected additional dollars that are turned back by other states.

I intend to be at the committee hearing Saturday and answer any questions you may have but also available via phone prior if you need anything.

**Total IJJA formula funds which will be received: \$99,791,265**

- IJJA State Energy Program: \$3,905,130
- IJJA Weatherization: \$15,131,495
- IJJA Energy Efficiency Revolving Loan Fund: \$4,641,870 (anticipated to increase based on other states declining the funding)
- IJJA Energy Efficiency Block Grant: State funding \$1,653,240 (does not include cities or tribal allocations)

**IRA: (request \$90,000,000)**

Home Energy Performance-Based, Whole-House Rebate Allocations \$37,338,470	High Efficiency Electric Home Rebate Allocations \$37,121,060	Total: \$74,459,530
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Maria Effertz  
Director, Division of Community Services

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# VANTIS PPP Business Opportunity & ROI

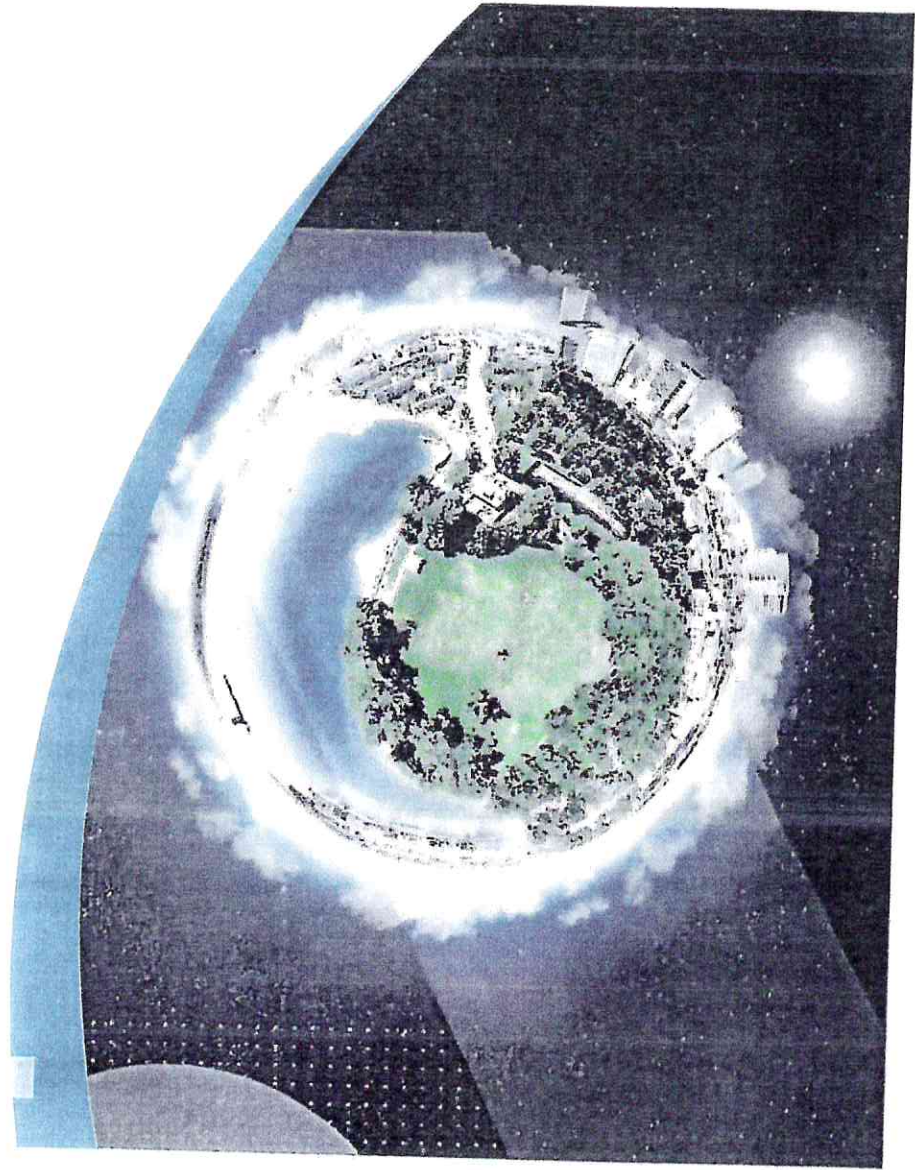
March 2022

#### DISCLOSURE STATEMENT

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# Vantis = Return on Investment to North Dakota

## Thales tasked to create business plan for ND in December 2020

- Comprehensive look at the UAS Market
- Revenue model assumptions based on demand

## Intermediate revenue share today

- General fund + Royalties in place

## New business model = more revenue

- Additional return on investment comes with FAA validation and approvals
- Partnership between Thales - ND
- A PPP structure with 25% stake results in \$22M/yr over 9 years

Goal → Commercial partnership with State of North Dakota

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**Executive Summary | Recommendations**

**Business Model & Governance Structures**

- Leverage new and existing relationships for innovative partnerships with federal, state, and academic entities
- Develop a UTM test for BVLOS operations
  - Leverage FAA Test Agreement and UAS for partnerships
  - Participate in ongoing partnerships such as NASA's AAM National Campaign and FAA's UAS Test Site Program

**Market and Regulatory Considerations**

- Develop market explorations for federal and regional business opportunities
- Pilot market explorations in ND leveraging partnerships
  - The strategic choice of state, business model, and strategic communications
  - Strategic training capability
  - Business process implementation and continuous improvement
- Consider other UAS-friendly states (e.g., Texas, California, Ohio, Nevada, New Mexico, and Maryland)

**Regulatory Considerations**

- Shape the vision of the UTM industry to drive consensus for regulatory
- Engage in industry-led UTM coalition and Research and Development efforts
- Develop executable plan to shape favorable legislation
  - Mentor UAS/UTM legislation
  - Leverage test site participation
  - Provide comment/feedback to industry, NASA, Homeland Security, and FAA
  - Align current lobbying resources to engage federal and state legislative bodies for favorable UAS/UTM policies

*Thales has an opportunity for access in the UTM market by positioning itself as a facilitator, collaborator, and influencer*

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DECEMBER 16, 2020

TASK ORDER TWO  
DEVELOP A BVLOS SYSTEM TECHNICAL ENGINEERING AND EXECUTION PLAN FOR AN ACROSS THE STATE SYSTEM  
VANTIS STATEWIDE DEPLOYMENT PLAN

ISSUED BY: [Redacted]  
ISSUE DATE: [Redacted]  
ISSUE NUMBER: [Redacted]

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**Key Risks Determining the Path Ahead**

	Risks	Mitigation
Policy	<ul style="list-style-type: none"> <li>Acceptable SRM Process</li> <li>UAS Aircraft Certification</li> <li>Business Model Acceptance</li> </ul>	<ul style="list-style-type: none"> <li>Active participation in SRM</li> <li>Special airworthiness cert.</li> <li>Work on framework for delegation</li> </ul>
Market	<ul style="list-style-type: none"> <li>Amount of demand for network services</li> <li>Areas of operation</li> </ul>	<ul style="list-style-type: none"> <li>On-going user engagement to generate value</li> <li>Continue to evolve</li> </ul>
Fiscal	<ul style="list-style-type: none"> <li>Willingness of users to pay service fees</li> <li>Business model and structure</li> <li>Decreased levels of State Funding</li> </ul>	<ul style="list-style-type: none"> <li>Active user engagement to validate need</li> <li>Demonstrate ROI, cost benefit to ND Leg.</li> </ul>
Technical	<ul style="list-style-type: none"> <li>Access to / use of FAA Surveillance Data</li> <li>Suitable / longer range C2 Link</li> </ul>	<ul style="list-style-type: none"> <li>Advocate to FAA for use of data</li> <li>Model Vantis impact of no FAA data</li> <li>Will investigate C2 alternatives</li> </ul>

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## Vantis Return on Investment – Current Construct

### Vantis is close to commercialization but requires additional FAA approvals

- Economic development driving the major returns to the State today
  - Over 100 direct jobs attributable to Vantis today with \$8.5M in tax revenue collected over 10 years
- Tech platform & partnership strengthening
  - Thales & Partner Companies establishing sustainable presence in ND

### Current Agreements on Payback to the State

- Century Code Requirement
  - 3% return to General Fund
- Thales made additional commitments to the State
  - Software component royalty payments for Vantis components sold outside ND
  - 5% up to 200% of initial investment
  - 3% until end of Master Agreement with Thales
- Subcontracts from Thales
  - Leverage State's UAS experts outside the State
  - Michigan, Texas, DoD
  - International Opportunities

# Pillars for Vantis Network Sustainability in ND and Beyond



The ultimate end state of the program is self sustainability through service fees and public/private equity

- *Strategic Investment*
- *Vantis Sustainment*
- *Regulatory/Policy Adoption*
- *Scalable Operations*



The foundation of the program is state funding

Basic funding and implementation of infrastructure to support early adoption of the network

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# UAS Operations Market Demand & Vantis Offerings







## Market Demand Across:

- (creation of: (not included)
- Commercial Delivery
- Agriculture
- Inspection (Linear & Structure)
- Emergency Response

## Market Structure

- Cities (grouping by - SM, MD, LG)
- Rural (by area)

## Market Offering:

-  Information Management
-  Airspace Manager
-  Emergency Services Manager
-  Training Management
-  Local Community Manager
-  Supplemental Services Provider

# Market Demand Exists

	Use Case Description	Flights			Fleet				
		2022	2027	2032	2022	2027	2032		
Recreational Use	<ul style="list-style-type: none"> <li>Based upon population and UAS adoption statistics / trends</li> <li>Average 4 flights per month / UAS</li> <li>Estimate adoption / penetration (1-5%)</li> </ul>	Low	0.4 K	73 K	156 K	Low	8	1.5 K	3.2 K
		High	0.9 K	178 K	379 K	High	19	3.7 K	7.9 K
Commercial Delivery	<ul style="list-style-type: none"> <li>Estimate retail portion of commercial delivery (15%)</li> <li>Estimate of portion suitable for delivery by UAS (5%)</li> <li>Estimate adoption / penetration (1-5%)</li> </ul>	Low	3.3 K	658 K	1,399 K	Low	2	0.5 K	1.0 K
		High	16.5 K	3,292 K	6,996 K	High	11	2.3 K	4.9 K
Agriculture Use	<ul style="list-style-type: none"> <li>Estimate number of agriculture locations across the state</li> <li>Assume 4 flights per location per year</li> <li>Estimate adoption penetration (5-50%)</li> </ul>	Low	0.1 K	13 K	27 K	Low	8	1.6 K	3.5 K
		High	0.6 K	125 K	267 K	High	0.1 K	16 K	35 K
Linear Inspection	<ul style="list-style-type: none"> <li>Estimate amount of linear infrastructure</li> <li>Inspections per year (infrastructure type dependent)</li> <li>Estimate adoption penetration (25-50%)</li> </ul>	Low	0.0 K	6.8 K	15 K	Low	1	0.2 K	0.3 K
		High	0.1 K	14 K	29 K	High	2	0.3 K	0.6 K
Structure Inspection	<ul style="list-style-type: none"> <li>Estimate structures and construction sites</li> <li>Inspections per year (structure type dependent)</li> <li>Estimate adoption penetration (5-50%)</li> </ul>	Low	0.2 K	31 K	65 K	Low	1	0.1 K	0.1 K
		High	1.5 K	305 K	648 K	High	3	0.6 K	1.2 K
Emergency Response	<ul style="list-style-type: none"> <li>Covers search &amp; rescue and other emergency responses</li> <li>Estimates based on emergency frequency and land area</li> <li>Estimate adoption penetration (5-50%)</li> </ul>	Low	0.0 K	8.4 K	18 K	Low	1	41	86
		High	0.4 K	84 K	178 K	High	2	0.4 K	0.9 K
<b>TOTALS</b>		Low	3.9 K	791 K	1,680 K	Low	21	3.9 K	8.2 K
		High	20 K	4,002 K	8,505 K	High	0.1 K	24 K	50 K

**NOTES:**

- Low/High refers to value associated with low/high end of value distribution/penetration rate in the population/area.
- Statewide, civil and public safety use made feasible by digital coverage of network, complete by 2027 and full in operation by 2032.

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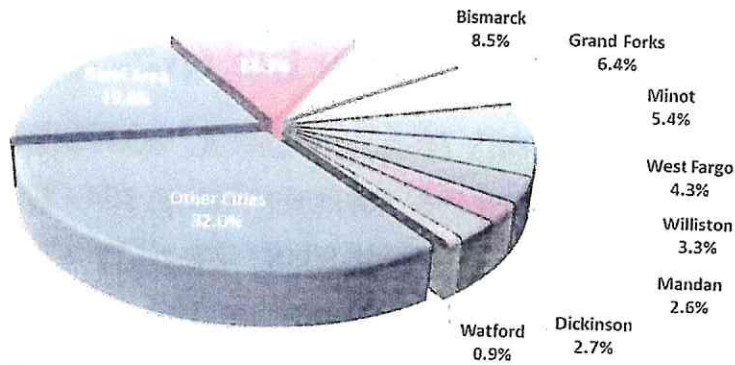


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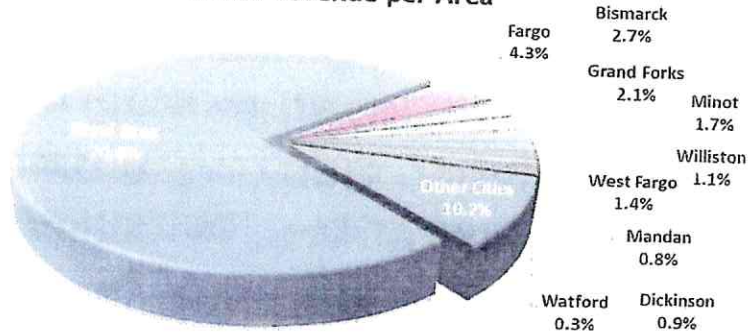


# Market Demand Forecast & Revenue Potential

Vantis Service Usage per Area



Vantis Revenue per Area



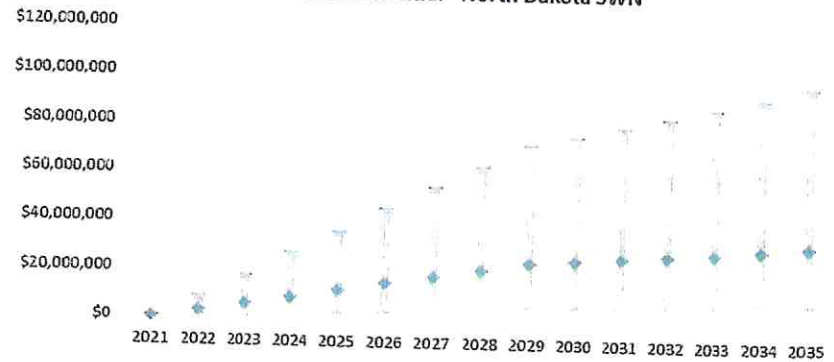
## Demand translates into revenue

1. Core services pricing
2. Value-added services

## ND Service Fees Conservatively Estimated to be ~\$30M/year

\*Does not include C-UAS & Emergency Services

Revenue Potential - North Dakota SWN



# Thales Supports Creation of PPP with ND to Serve the Full US Market

## Notional Structure (basis of financial forecast)

- “VANTIS, Inc.” – a JV with Thales and ND as partners (and potentially others) set up to operate the Vantis network and deliver UAS integration services to UAS operators.
  - The focus will be ND first
  - This company will be established to pursue all the US market
  - This may include “white-labeling” services for other States
- “BVLOS Infrastructure, Inc.” – a Infrastructure-as-a-service business to be established with a) value added partners and b) external financing sources
  - High CAPEX business – could/should be structured so off balance sheet
  - ND not likely interested in investing in Infrastructure in other States
  - Different partners may be needed vs VANTIS, Inc.

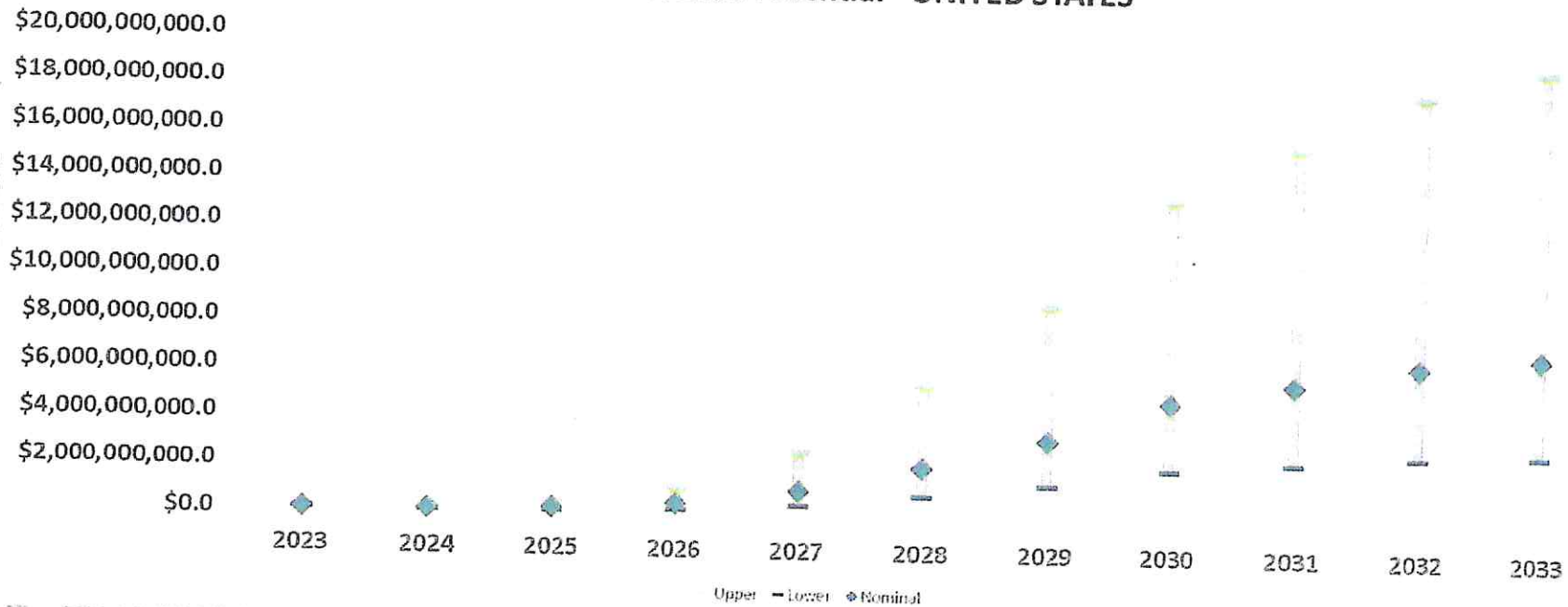
Should provide flexible platform to address US market which is estimated to be 40-50% of global market – multi-billion per year opportunity

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# US Nationwide UAS Integration Service Potential is Substantial

Annual Revenue Potential - UNITED STATES



Applied same methodology used for North Dakota forecast during Business Case Development

Net Result: Multi-Billion \$ Annual Service Fee Business

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# Strong ROI for ND Assuming Success in Just Currently Active Markets

## Leverage Ongoing Efforts

- North Dakota
- Logical Neighbors (MN, SD)
- States with Thales Contracts (MI, NY, TX)

## Key Takeaways

- Grows to \$1-2B/year business
- Assuming ND takes 25% of profit - \$200M returned to ND in first 10 years
- And ND retains 25% (assumption) ownership of a business generating \$200M+ in profit per year



\$M	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Cumm
<b>Nominal Revenue</b>	\$ 3.5	\$ 17.3	\$ 36.0	\$ 90.1	\$ 216.2	\$ 450.4	\$ 720.7	\$ 1,081.0	\$ 1,261.1	\$ 1,441.3	\$ 5,317.6
<b>Nominal Profit (15%)</b>	\$ 0.5	\$ 2.6	\$ 5.4	\$ 13.5	\$ 32.4	\$ 67.6	\$ 108.1	\$ 162.1	\$ 189.2	\$ 216.2	\$ 797.6
<b>ND Share (25%)</b>	\$ 0.1	\$ 0.7	\$ 1.4	\$ 3.4	\$ 8.1	\$ 16.9	\$ 27.0	\$ 40.5	\$ 47.3	\$ 54.0	\$ 199.4

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