

VANTIS PPP Business Opportunity & ROI

March 2022

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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

<p>Business Model & Governance Structures</p> <p>By entering the UTM Market as a first-mover with a hybrid business model...</p> <ul style="list-style-type: none"> Leverage new and existing relationships for innovative partnerships with federal, state, and academic entities Develop a UTM test for BVLOS¹ operations <ul style="list-style-type: none"> Leverage FAA Test Agreements, and JVs for partnerships Participate in ongoing partnerships such as NASA's AAMP National Campaign and FAA's UAS Test Site Program 	<p>Value Pool & Monetization</p> <p>...Thales can shape the monetization approach of the UTM industry...</p> <ul style="list-style-type: none"> Develop market aspirations for internal and external business strategies Pilot market aspirations in ND, leveraging tools such as: <ul style="list-style-type: none"> The strategic choice cascade, business model canvas PMO, change management, strategic communications Strategic teaming, legal/policy Business process implementation and continuous improvement Consider other UAS-friendly states (e.g., Texas, California, Ohio, New York, New Mexico, and Maryland) 	<p>Regulatory Considerations</p> <p>...and the proven demand for UTM will spur federal regulators to act.</p> <ul style="list-style-type: none"> Shape the vision of the UTM industry to drive consensus for regulations Implement industry-led UTM coalition and Research and Development efforts Develop executable plan to shape favorable legislation <ul style="list-style-type: none"> Monitor UAS/UTM legislation Leverage test site participation Provide comment/snap industry, NASA, Homeland Security, and FAA Augment current lobbying resources to engage federal and state legislative bodies for favorable UAS/UTM policies
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Thales has an opportunity for success in the UTM market by solidifying itself as a first mover, collaborator, and influencer

THALES
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

Contract Number: 190001011
HW-19-03-016
Date of Issue: October
Northern Plains Unmanned Aircraft Systems Test Site (NP-UAS-TEST) on behalf of University of North Dakota (UND)

1001 Avenue Ray, Room 3000
Grand Forks, ND 58202

HW-19-03-017
Thales Air Traffic Management U.S. - Digital Aviation Solutions

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Key Risks Determining the Path Ahead

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

Continuously Evolving - See Title Page

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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

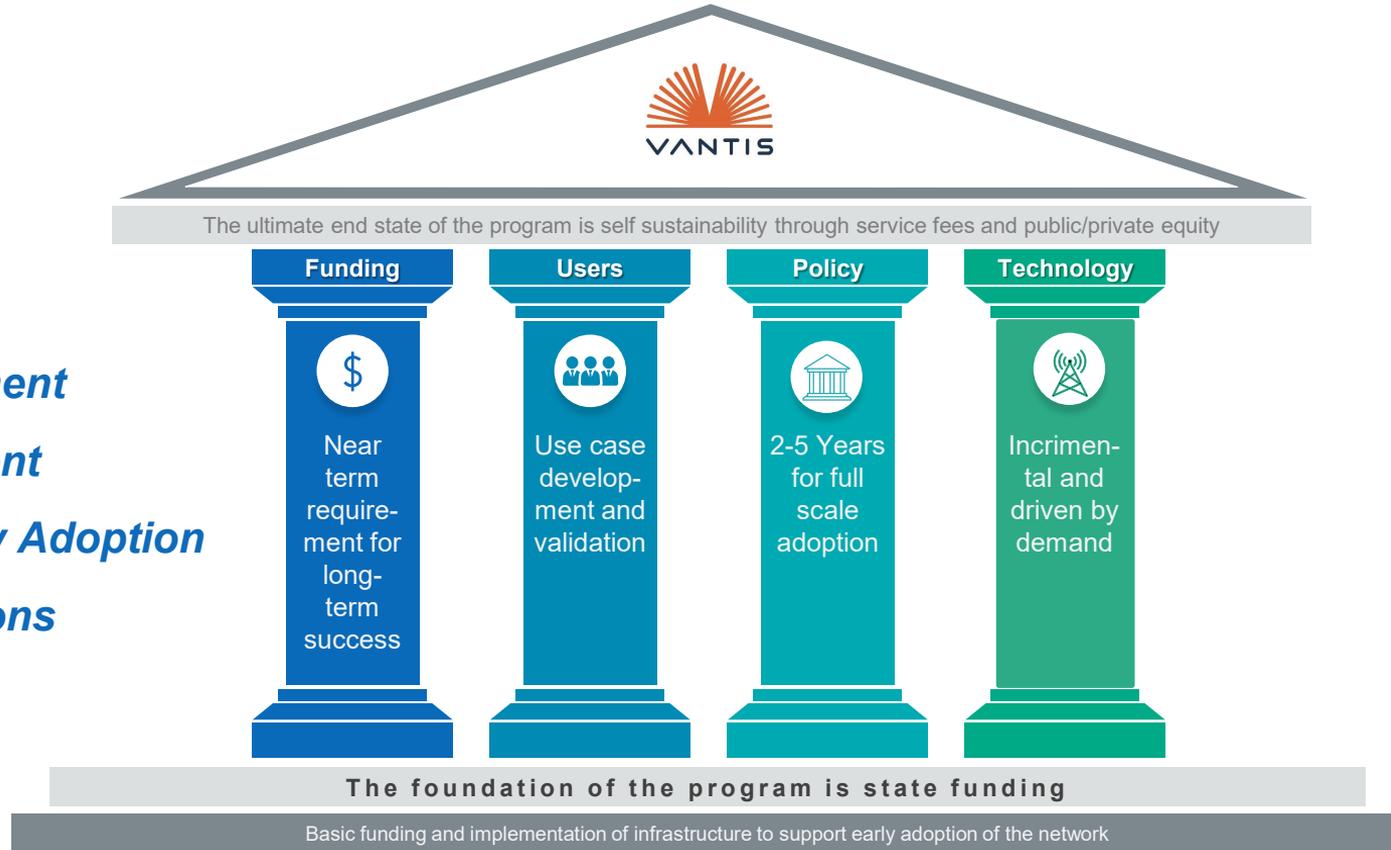
Current Agreements on Payback to the State

- 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

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



UAS Operations Market Demand & Vantis Offerings

Market Demand Across:

- Recreational Use (not included)
- Commercial Delivery
- Agriculture
- Inspection (Linear & Structure)
- Emergency Response

Market Structure

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

Market Offering:

-  Infrastructure (not included)
-  Airspace Manager
-  Emergency Services Manager
-  C-UAS / Threat Manager (not included)
-  Local Community Manager
-  Supplemental Services Provider

Market Demand Exists

	Use Case Description	Flights			Fleet				
Recreational Use	<ul style="list-style-type: none"> Based upon population and UAS adoption statistics / trends Average 4 flights per month / UAS Estimate adoption / penetration (1-5%) 	2022	2027	2032	2022	2027	2032		
		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"> Estimate retail portion of commercial delivery (15%) Estimate of portion suitable for delivery by UAS (5%) Estimate adoption / penetration (1-5%) 	2022	2027	2032	2022	2027	2032		
		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"> Estimate number of agriculture locations across the state Assume 4 flights per location per year Estimate adoption penetration (5-50%) 	2022	2027	2032	2022	2027	2032		
		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"> Estimate amount of linear infrastructure Inspections per year (infrastructure type dependent) Estimate adoption penetration (25-50%) 	2022	2027	2032	2022	2027	2032		
		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"> Estimate structures and construction sites Inspections per year (structure type dependent) Estimate adoption penetration (5-50%) 	2022	2027	2032	2022	2027	2032		
		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"> Covers search & rescue and other emergency responses Estimates based on emergency frequency and land area Estimate adoption penetration (5-50%) 	2022	2027	2032	2022	2027	2032		
		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
		2022	2027	2032	2022	2027	2032		
TOTALS		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

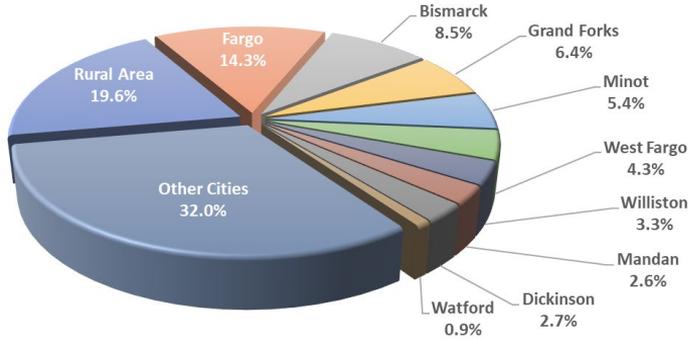
Notes:

- Low/High refers to lvalue associated with lower/upper bound of UAS adoption/penetration rate in the use case demand
- Statewide rollout and use case growth are modelled as a logistics curve; assumes network complete by 2025 and full market penetration by 2032

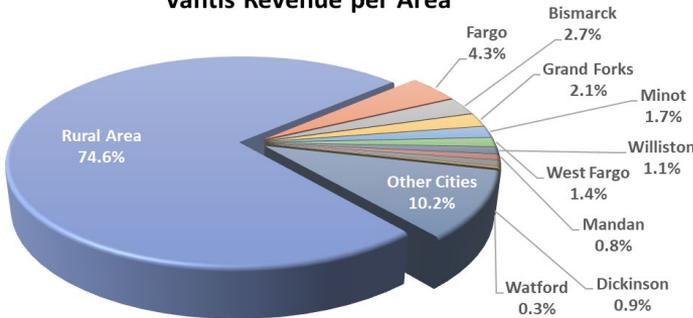
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Market Demand Forecast & Revenue Potential

Vantis Service Usage per Area



Vantis Revenue per Area



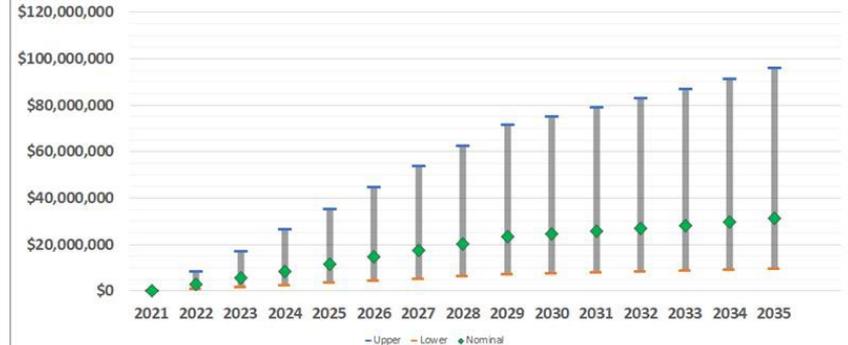
Demand translates into revenue

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



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

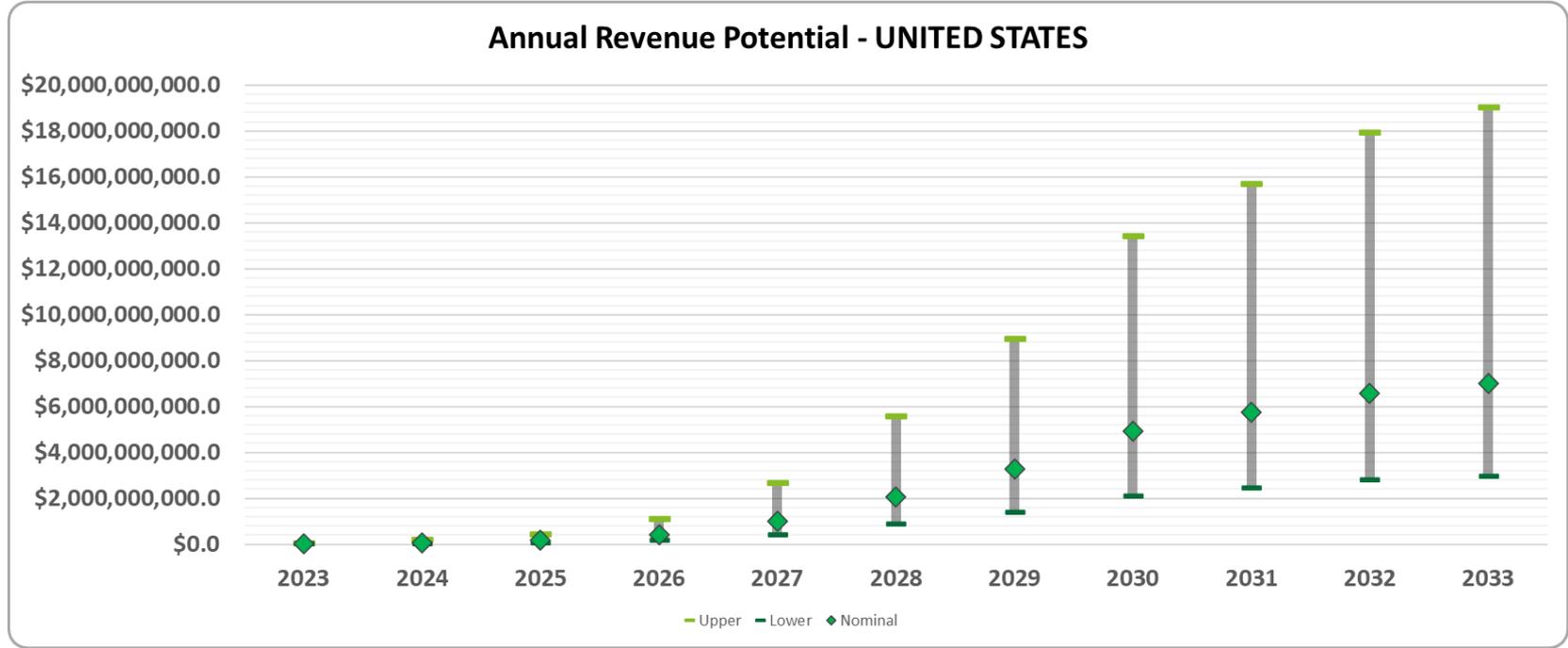
Notional Structure (basis of financial forecast)

- “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

US Nationwide UAS Integration Service Potential is Substantial

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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
Nominal Revenue	\$ 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
Nominal Profit (15%)	\$ 0.5	\$ 2.6	\$ 5.4	\$ 13.5	\$ 32.4	\$ 67.6	\$ 108.1	\$ 162.1	\$ 189.2	\$ 216.2	\$ 797.6
ND Share (25%)	\$ 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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Thank You