



Investor Overview Q4 2016

www.vgsmartglass.com

PROBLEM



Traditional window treatments have wide adoption, BUT...

- Are awkward to use
- Interrupt view
- Mechanics break
- Have limited Energy Control

The Department of Energy named smart glass a “must have technology,” BUT...

- Are too expensive
- Require special wiring
- Are slow to switch
- Do not replace blinds



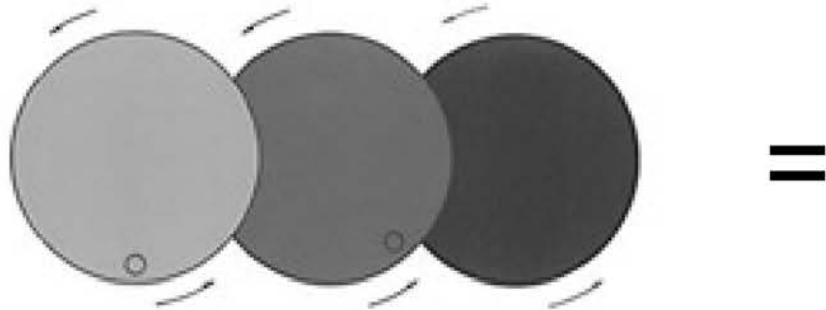
THERE MUST BE A SIMPLER SOLUTION !

* Smart Glass is defined as glass that changes opacity when electric current is applied

OFF THE SHELF SOLUTION: POLARIZATION

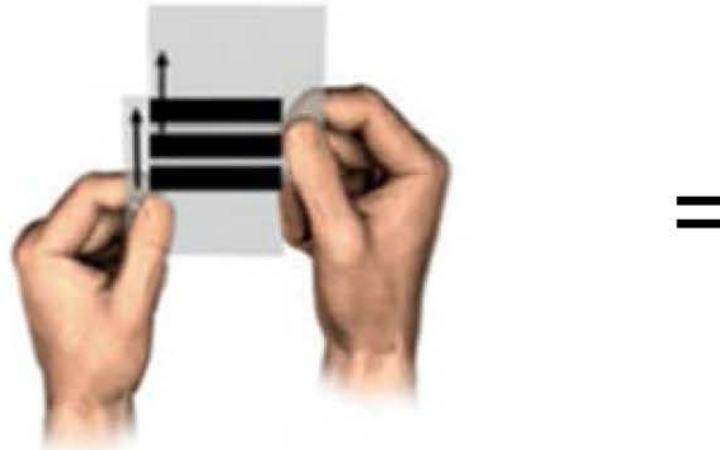
Glass privacy and shading actuated by movement...

Traditional
Approach-
ROTATION



Only for round windows

VG SmartGlass
Innovation-
LINEAR SHIFT



For nearly all windows

TECH DEMO: <https://vimeo.com/175640795>

**VG SMARTGLASS OWNS BROAD PATENTS ON THIS INNOVATION.
IT CAN BE APPLIED TO MANY GLASS AND WINDOW APPLICATIONS.**

APPLICATIONS OF VG TECHNOLOGY



PRODUCT DEMO: <https://vimeo.com/187932297>

ADDRESSABLE MARKET (USD)

Small Format- Privacy

- Up to 32 x 32"
- Hospitals/ Labs
- Hotels
- Schools/ Universities
- Government buildings
- Recreational Vehicle/ Boats

Market: \$2.1B

Larger Format Privacy / Residential/

- Up to 32 x 64" or 64 x 32"
- Interior Office
- Hotels
- Luxury/Smart Homes
- Residential Door

Market: \$5B

Exterior Commercial and Automotive

- Up to 72 x 72"
- Commercial building
- Residential Window
- Automotive

Market: \$6.5B

Total Market: \$13.6B

MARKET DETAIL- SMALL FORMAT PRIVACY

Price per square foot	\$75		
Average size	24	x	24
Total Square foot	4		
Verticals	Number of facilities in US	Average Number of viable rooms per facility	Market Size
Hospitals	5,700	160	\$273,600,000
Hotels	37,000	10	\$111,000,000
Schools	135,000	40	\$1,620,000,000
Universities	4,140	50	\$62,100,000
			\$2,066,700,000

MARKET DETAIL- LARGE FORMAT PRIVACY

INTERIOR PRIVACY				
Price per square foot	\$75			
Average size	30	x	46	
Total Square foot	9.5833333			
Verticals	Number of facilities in US	Average Number of viable rooms per facility	Market Size	
Hospitals	5,700	40	\$163,875,000	
Hotels	37,000	30	\$797,812,500	
Schools	135,000	30	\$2,910,937,500	
Universities	4,140	0	\$0	
			\$3,872,625,000	
RESIDENTIAL DOOR				
Price per square foot	\$60			
Average size	30	x	60	
Total Square foot	12.5			
Application	Units	Smartglass Penetration	Applicable Units	Market Size
side hinged doorglass	11,600,000	10.00%	1,160,000	\$870,000,000
patio doorglass	3,879,000	10.00%	387,900	\$290,925,000
		Total	\$1,547,900	\$1,160,925,000
	TOTAL MARKET		\$5,033,550,000	

MARKET DETAIL- COMMERCIAL AND TRANSPORT


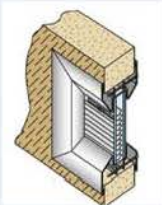


<u>RESIDENTIAL WINDOW</u>				
Price per square foot	\$50			
Average size	45	x	48	
Total Square foot	15			
Appication	Units	Smartglass Penetration	Applicable Units	Market Size
residential window	54,100,000	7.50%	4,057,500	\$3,043,125,000
Price per square foot	\$75			
Average size	60	x	96	
Total Square foot	40			
<u>COMMERCIAL WINDOW</u>				
Appication	Available Square Feet	Smartglass Penetration	Market Size	
Commercial Window	437,000,000	7.50%	\$2,458,125,000	
Price per square foot	\$50			
Average size	32	x	22	
Total Square foot	4.888888889			
<u>AUTOMOTIVE</u>				
Appication	Sunroofs sold	Smartglass Penetration	Market Size	
Automotive Sunroof	15,567,500	25.00%	\$951,347,222	
	TOTAL MARKET		\$6,452,597,222	

UNIQUE BENEFITS OF VG APPROACH

- Simple user interface
- Fraction of the cost of “smart glass”
- No electricity/ phase change
- Instant switch
- Built-in + aftermarket formats
- 20% to 30% energy savings
- Wide range of film options...


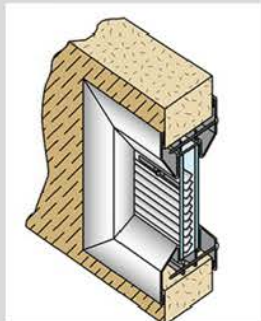



THE PROPRIETARY VG SMARTGLASS TECHNOLOGY UNIQUELY SOLVES PRIVACY, GLARE, AND ENERGY PROBLEMS FOR WINDOWS AND GLASS APPLICATIONS

COMPETITIVE FRAMEWORK*

PRODUCT SEGMENT	PRIVATE	DURABLE	RELIABLE	LOW MAINTENANCE	FULL VIEW	ROOM DARKENING	EASE OF USE	LOW COST	TOTAL
Traditional Blinds and Curtains 	3	1	2	1	2	2	1	3	16
Blinds Between Glass 	3	1	1	2	2	1	2	2	17
VG Technology	3	3	3	3	3	3	3	2	26
White Vision Panel 	3	3	3	3	1	1	2	2	21
Electric "Smart" Glass 	3	1	1	2	3	1	3	1	18

* Based on attributes evaluated by the architectural community

PRICE (PSF) COMPARISON

Size (In.)	Aftermarket Blind	Built in Minblinds	VG SmartGlass	Vision Panels	SmartGlass
					
22x36	44	60	65	145	190

- Mfg Price to jobsite/ OEM, installation cost not included
- Pricing for initial sizes
- Target size is 30" x 60" coming online Q1 2017

INTERIOR PRIVACY MARKET VALIDATION

- 600+ units sold in UK
- 10+ hospital installations in UK
- Licensed technology in Japan to \$15B company
- Initial installations complete in U.S. and Japan
- \$400K in architectural specifications in N.A.
- Executed contract manufacturing agreement in Chicago
- Multiple VG product platforms developed
- Developing fire rated product with top fabricator in N.A.
- Commitment to promote by #1 commercial door company
- Product development + promotion commitment by RV industry

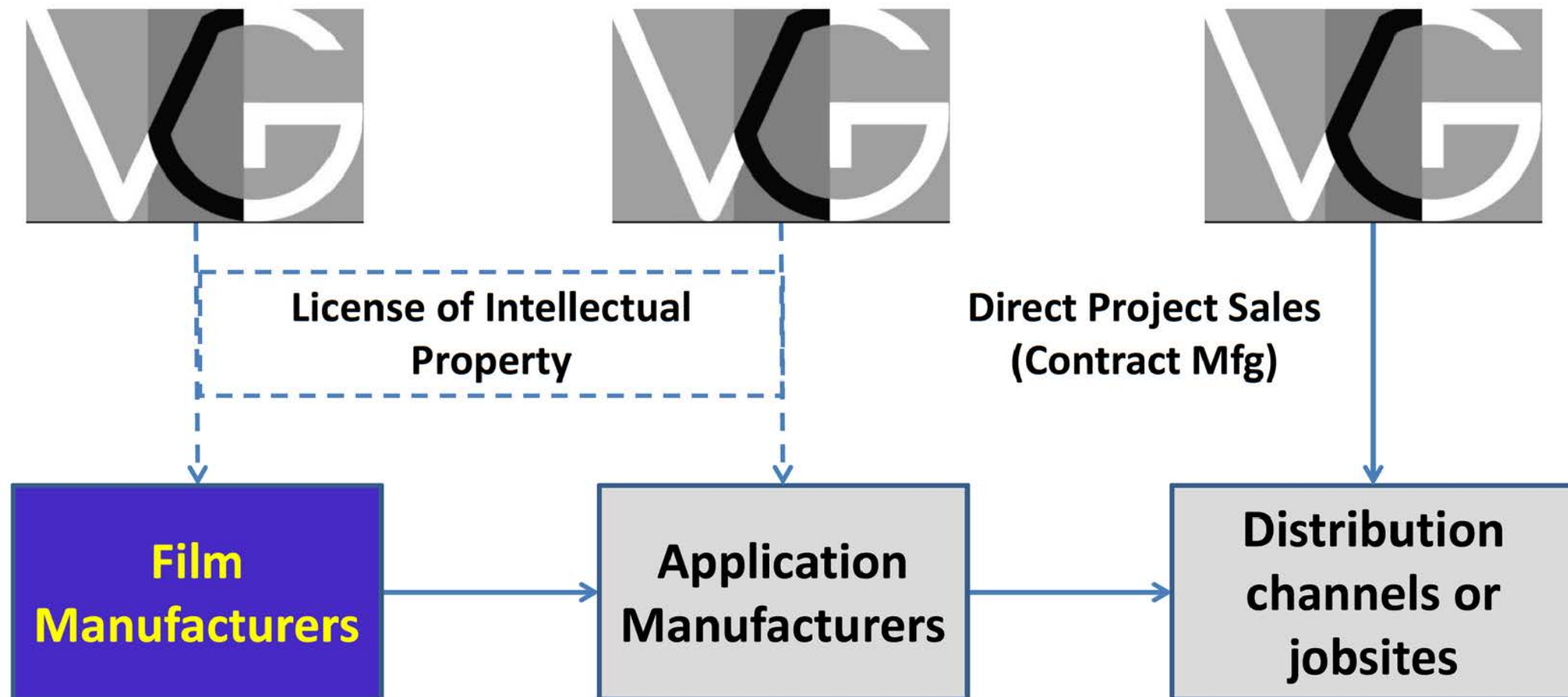


OTHER MARKET VALIDATION

- \$50K+ orders from top residential and automotive companies
- Demo installations complete
- License agreement in place with residential and commercial window manufacturer in Chicago
- \$100K+ developmental commitments by commercial glass/window companies
- Product development in Japan and Detroit with top automotive companies
- Executed joint development agreement for remote automation
- Large format product design complete



BUSINESS MODEL



LICENSING REVENUE MODEL

Avg. Suggested Selling Price Per / Sq. Ft.	\$65
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Avg. License Fee* %	12.5%
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Avg. License Fee Per / Sq. Ft.	\$8.13
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*** License fee is 15% when VG acquires customer/ job and 10% if fabricator acquires customer/ job**

UNIT EXAMPLE - 22" x 36" Window



Fabricator
Revenue

\$385

Fabricator
License fee paid
to VG **\$48.13**
Smartglass*



GO TO MARKET PLAN

1

Interior Privacy; 32x32 max
(2017-18)

- Up to 32 x 32"
- Hospitals/ Labs
- Hotels
- Schools/ Universities
- Government buildings
- Specialized Transportation (RV, Boat)

Key Milestones

- 1) VG Product Launch in U.S. (Q1 2017)
- 2) Fire rated launch through strategic partner (Q2 2017)
- 3) \$2M in sales (Q4 2018)

2

Interior Privacy; Larger
Formats (2018-20)

- Up to 32 x 64" or 64 x 32"
- Interior Office
- Hotels
- Luxury/Smart Homes
- Residential Door
- Specialized Transportation (Buses, etc)
- Remote/App/Voice controls

Key Milestones

- 1) 20 + installations (Q4 2018)
- 2) 5 agreements with strategic partners (Q1 2019)
- 3) \$15 M in sales through Q4 2020

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Exterior Commercial and
Automotive (2019-21)

- Up to 72 x 72"
- Commercial building
- Residential Window
- Automotive
- Remote/App/Voice controls

Key Milestones

- 1) 50+ installations (Q2 2020)
- 2) 10 agreements with strategic partners (Q4 2020)
- 3) \$25M in sales (Q4 2021)

MANGAGEMENT TEAM

Management Team



Mike Stacey, CEO

Co- founder of SmarterShade Inc., 15+ years experience in strategy, operations, business development as entrepreneur and management consultant



Jerry Hogan, Design and Engineering

Over 35+ years of experience in custom high-performance window design, and applications engineering (Sears Tower, Pentagon, US Embassy in Moscow)



Mike Harshfield, Operations

20+ years as operations specialist for large corporations and PE/ VC backed companies. Experience across various industries including high technology and manufacturing sectors

Key Advisors

- **Ron Spielman** (Monda Window and Door), Residential and commercial window executive
- **National Renewable Energy Lab (NREL)**, Window simulation and testing partner
- **Michael Gruber**, Financial Advisor
- **Will Glaser**, High Technology Expert
- **Carl Cobb**, Optical Expert
- **Akhil Choudary**, Social Media Expert

Product Engineering Resources



Ryan Tatzel, Optical film specialist



Adithya Menon, Mechanical and Electrical



Abhi Chattopadhyay, Electrical and Mechanical

CORE TEAM

Management Team



Mike Stacey, CEO

SmarterShade Founder, 15+ years experience as strategy and operations entrepreneur and management consultant



Jerry Hogan, Director of Design and Engineering

Over 35+ years of experience in custom high-performance window design, and applications engineering



Tony Lambros, Sales

Over 30 + years as an executive and sales expert in the window and door hardware business



Ryan Tatzel, Optical Film R&D

SmarterShade Founder, 8+ years experience conducting optical film and chemical engineering background

Key Advisors

- **Ron Spielman** (Monda Window and Door): residential and commercial window executive
- **Carmine Parente** (AGM Industries): glass and metal supply industry distribution
- **National Renewable Energy Lab (NREL)**, Window simulation and testing partner
- **Steve Abramson**: Window industry commercialization expert
- **Ted Willoughby**, Building products expert

Product Engineering Resources



Abhi Chattopadhyay, Electrical and Mechanical



Sebastian Morales, Mechanical and Rendering



Adithya Menon, Mechanical and Electrical

FINANCIAL OVERVIEW

	2017	2018	2019	2020	2021
Revenue	\$814,800	\$4,970,000	\$13,635,000	\$23,180,000	\$34,680,000
Expenses	\$1,100,183	\$3,119,000	\$7,101,003	\$11,609,094	\$17,530,866
EBITDA	-\$285,383	\$1,851,000	\$6,533,997	\$11,570,906	\$17,149,134
EBITDA Margin	-35.0%	37.2%	47.9%	49.9%	49.4%

**VG SMARTGLASS IS SEEKING \$500K IN
EXCHANGE FOR 9% OF THE COMPANY**

- 130K committed to date

USE OF FUNDS SUMMARY

Category	Amount	Detail	Milestones achieved
Intellectual Property	\$75,000	<ul style="list-style-type: none">• File new patents on film, window design• Pursue individual country patents in Europe (EPO)	<ul style="list-style-type: none">• Multiple notes of protection (film, mechanical, window design, automation)• Broaden geographic IP coverage
Sales and Marketing	\$225,000	<ul style="list-style-type: none">• Hire VP of Sales• Promote current product in trade shows• Setup local product showroom• Architect Education	<ul style="list-style-type: none">• Add 5 licensees• Grow job pipeline to 5X• Add 5 channel partners• Add geographies
Operations and Engineering	\$200,000	<ul style="list-style-type: none">• Hire dedicated engineering team (2 FTE)• Build design library for products• Formalize licensee fabrication procedures for lamination and fabrication• Automation• Ongoing film R&D	<ul style="list-style-type: none">• Universal mechanical designs across products• Licensee “Playbook”• Turnkey automation system for select products• \$10 per square foot for film

USE OF FUNDS DETAIL

	2017												TOTAL 2017
	31-Jan	29-Feb	31-Mar	30-Apr	31-May	30-Jun	31-Jul	31-Aug	30-Sep	31-Oct	30-Nov	31-Dec	
Payroll	\$24,583	\$36,875	\$36,875	\$44,250	\$44,250	\$44,250	\$44,250	\$44,250	\$44,250	\$44,250	\$44,250	\$44,250	\$496,583
Marketing	\$1,000	\$1,000	\$1,500	\$2,500	\$2,750	\$2,750	\$3,750	\$3,750	\$4,000	\$4,000	\$4,000	\$4,000	\$35,000
Accounting and Legal	\$1,000	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$39,500
IP	\$3,000	\$4,000	\$3,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$55,000
Office Expenses	\$1,961	\$3,211	\$3,211	\$3,211	\$3,211	\$3,365	\$3,365	\$4,365	\$5,200	\$5,200	\$5,200	\$5,200	\$46,700
T&E	\$700	\$2,500	\$2,200	\$3,000	\$4,500	\$5,500	\$5,500	\$5,500	\$5,500	\$5,500	\$5,500	\$5,500	\$51,400
COGS	\$7,250	\$7,500	\$5,250	\$10,000	\$10,500	\$11,500	\$24,000	\$24,000	\$39,000	\$64,000	\$69,000	\$69,000	\$341,000
TOTAL	\$39,494	\$58,586	\$55,536	\$71,461	\$73,711	\$75,865	\$89,365	\$90,365	\$106,450	\$131,450	\$136,450	\$136,450	\$1,065,183

INVESTMENT PROFILE

Investment	\$500,000
Ownership	9%
Year 4 EBITDA	\$ 11,570,906
Exit Multiple	7X
Exit Value	\$80,996,344
Investor Receives	\$7,289,671
Return	14.5X
IRR	282%

SUMMARY

- ✓ Proprietary technology with VAST MARKET POTENTIAL
- ✓ Solution for privacy/ light/ heat in MANY APPLICATIONS
- ✓ TRACTION in Europe, Asia, and North America
- ✓ RIGHT TEAM to execute
- ✓ CAPITAL-LIGHT business model with high margins



For more information contact:

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