



Digitising physical objects on the blockchain  
to enable a circular and closed loop economy

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Security Matters Limited  
(ASX:SMX)

# Investor Presentation

Summer 2021



EQUILIBRIUM  
ECONOMY

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**Security Matters Limited (ASX:SMX)** offers a distinctive and patented tracing and authentication technology that digitizes physical objects on the blockchain, enabling circular & closed loop economies.

The SMX technology addresses several universal industry pain points, including:

	The increased customer and regulatory demand for supply chain integrity and ESG sourcing
	The need to authenticate products to combat sophisticated counterfeits
	The increased pressure on industries to shift linear consumption into circular economies, for example plastics

### Board of Directors

				
<b>Everardus (Ed) Hofland</b> Executive Chairman	<b>Haggai Alon</b> Chief Executive Officer	<b>Jovanka Naumoska</b> Non-Executive Director	<b>Kathryn Davies</b> Non-Executive Director	<b>Amir Bader</b> Non-Executive Director
Business leader that has brought in multi-million dollar investments to the Arava Desert region of Israel.	SMX founder. 20+ years commercializing technology, both from the Ministry of Defense in Israel and private sector.	Corporate lawyer, serving as non-executive director and company secretary for Imagion Biosystems Ltd, a cancer focused medical device company.	Experienced executive in mining, oil and gas, technology and health. Significant experience in delivering on multi jurisdiction transactions and global capital markets.	20+ years of experience in the management of agricultural businesses in Israel and Europe. Currently managing one of Israel's largest dairy farms.

### Key Metrics

ASX Code	<b>SMX</b>
Shares on Issue	<b>156m</b>
Share Price (6/8/21)	<b>\$0.33</b>
Share Price 52 week low	<b>\$0.29</b>
Share Price 52 week high	<b>\$0.48</b>
Market Cap (6/8/21)	<b>\$51.6m</b>
Cash (30/6/21)	<b>\$5.26m</b>

# Investment Highlights



**Construction and successful testing** of SMX blockchain enabled Industrial scale identification, authentication and quantification using a conveyor belt reader system completed, with commercial discussions already underway with parties globally.



**MoU signed in February 2020 with The Perth Mint**, forming the partnership, trueGold Pty Ltd, to create an initiative that will focus on the development of the world's first mine-to-marketplace ethical gold supply chain assurance solution, with **SMX to receive \$800k over 12 months**, for research and development carried out under a specified works program and schedule.



**SMX operates in a high growth market** with global sales of counterfeit and pirated goods are estimated at a value of \$500bn<sup>1</sup> and 33% of the US \$50 Trillion in Assets under professional management representing ESG investments<sup>2</sup>.



**SMX is collaborating with 6 leading industry players to jointly transform entire industry value chains**, and over the past two years, SMX has built up R&D/commercial partnerships with leading global corporations and industry leaders and is **gaining traction with additional 30+ companies**.



**SMX core technology has been protected since 2015 by more than 20 family patents and more than 100 patents filed around the world in various stages**, protecting SMX from competition by preventing the commercial use of its unique band of energy-based technology for marking and reading across all applications.



**The SMX leadership team combines deep R&D and commercialization expertise**, supported by a carefully selected and experienced board, as well as a broad network of industry advisors.



**A total of \$20.9m invested in the development of the technology** to date from both public and private investors.



**Strong cash position of \$5.26m<sup>3</sup>**, well positioning the company to commercialise its technology.

As at June 30 2021

Sources: 1. U.S. Intellectual Property and Counterfeit Good. 2 Existing/Emerging Research; OECD ESG Investing: Practices, Progress and Challenges; environmental leader; analytics insights.

# What is the 'Circular Economy'?

**The circular economy is a new way of looking at the relationships between markets, customers and natural resources.**

Move away from the linear economy...



Enable the Circular Economy...



The circular economy moves away from the traditional “take-make-dispose” economic model to one that is regenerative by design, with the goal of retaining as much value as possible from resources, products, parts and materials to create a system that allows for long life, optimal reuse, refurbishment, remanufacturing and recycling.



Companies who implement the circular economy concentrate on rethinking products and services using principles based on durability, renewability, reuse, repair, replacement, upgrades, refurbishment and reduced material use.



By applying these principles, companies can design out waste, increase resource productivity and decouple growth from natural resource consumption.

**This is the biggest opportunity to transform production and consumption since the First Industrial Revolution 250 years ago. By unleashing circular innovation, we can boost the global economy’s resilience, support people and communities around the world and help fulfil the Paris Agreement and the UN Sustainable Development Goals.**

*- World Business Council for Sustainable Development*

# A Significant & Rapidly Growing Market



**US\$4.5  
Trillion**

The circular economy is a US\$4.5 trillion opportunity, presenting huge potential for global economic growth, accelerating society towards a sustainable future.



**US\$60.7  
Billion**

The Global Plastic Recycling Market is estimated to reach US \$60.7bn by 2025



**US\$500  
Billion**

Global sales of counterfeit and pirated goods are estimated at a value of US\$500bn a year (2019 estimates)



**148m  
Tonnes**

Global textile waste is expected to reach 148 million tonnes annually by 2030



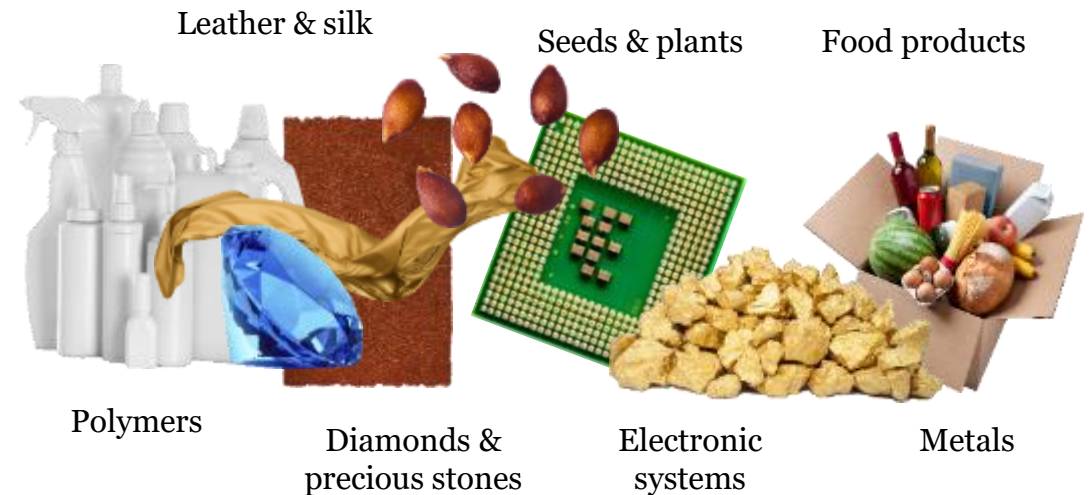
**SMX core technology is patent protected since 2015 (#10539521)** “on system and method for reading [the SMX marking]”

**This protects SMX from competition** by preventing the commercial use of its unique band of energy-based technology for marking and reading across all applications

This patent has been **granted for the United States** and **allowed for China and Japan**



**In addition, SMX has filed 120+ patents<sup>1</sup> for specific applications** of its technology across main end-markets, **As well as key geographies**



1. As of April 2021, 2 of those have been granted, 6 allowed and 117 are in progress  
Source: Company patent status, April 2021

SMX has developed a unique technology that supports invisible, resistant, and non-damaging tracking



## Sub-molecular, hidden marker system

- **Unique band of energy-based, patented technology**, originally developed by the Israeli Ministry of Defense
- Permanent or erasable markers that can be applied to **any type of material and chemical state** (solid, liquid or gas)
- Marker supports **invisible, indelible**, and **non-damaging** tracking
- **500,000+ distinctive molecules** ensure uniqueness of each marker



## Reader to identify chemical marks in real-time

- **Patented reader** that takes up data embedded in marked items in **real-time**
- Available as **hand-held device or industrial apparatus** for larger-scale applications (with conveyor belt underway), with ability to read the embedded (raw) material data from any chemical state (solid, liquid or gas)
- Non-destructive testing methods and **no lab testing** required



## Blockchain-enabled cloud system

- **Secure cloud system** that records readings throughout the supply chain
- Enables **real-time** access and visibility of **supply chain movements**



# The SMX Technology Value Proposition

**SMX's technology has multiple unique selling points compared to existing technologies**

## **Durable under industrial processing**

e.g., from polymer to packaging, enabling end-to-end tracking from raw material to end product

## **Invisible drop-in solution**

unlocking fast and low-cost adoption in any manufacturing process

## **Non-destructive**

when it comes to verifying the authenticity of the product



**Connecting physical and digital ecosystems**  
by creating a “Digital Twin” for every object marked



## **Applicable to all materials**

(solids, liquids, gases)

## **Enabling closed loop economies & circularity**

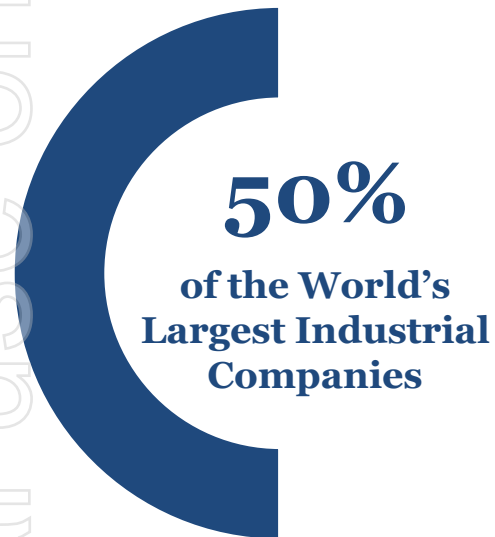
by facilitating efficient and accurate sorting and tangible and measurable sustainability

## **Able to store infinite amounts of information**

as well as adding data layers throughout the value chain

# The Shift has Already Begun

**Movement towards  
the digital economy**



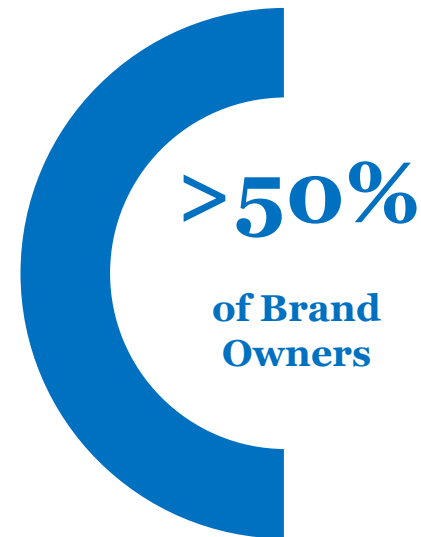
Will rely on [digital twins] innovative technology to gain an added insight into their products, assets, processes, operations.

**Continued fight  
against counterfeit**



Plan to increase the level of resilience across their supply chain as a result of COVID-19.

**Shift from linear to  
circular economies**



Are committing to establishing circular value chains.

**Increasing ESG investment  
and awareness**



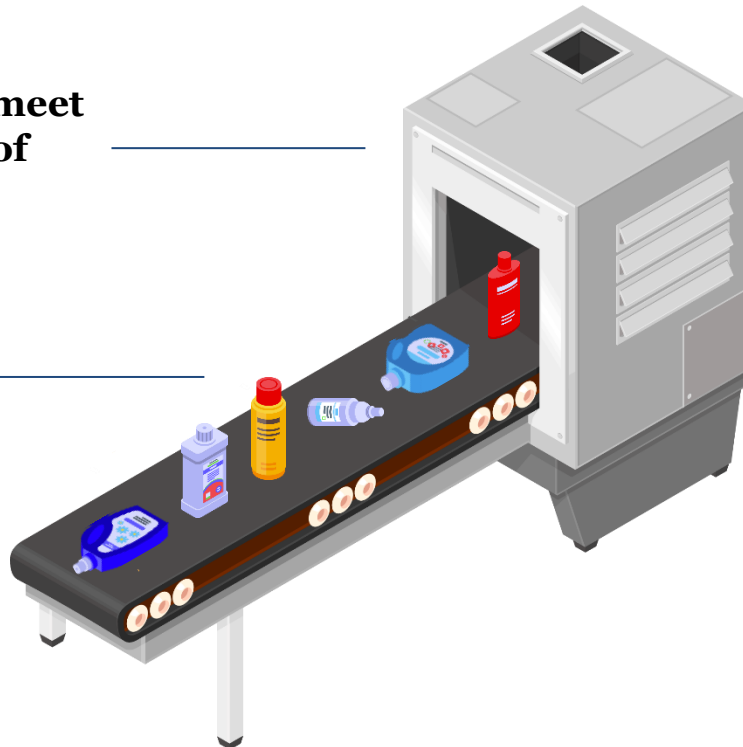
Under professional management representing ESG investments.

**Construction and successful testing of SMX blockchain enabled Industrial scale identification, authentication and quantification using a conveyor belt reader system completed, with commercial discussions commenced.**

**The conveyor belt has been designed to meet the sorting and recycling requirements of major players in the plastics sector.**

Ready to be integrated as part of any sorting or recycling facilities, for any size or type of plastic (e.g. rigid and flexible packaging).

The system provides valuable information on the materials flowing through the value chain that will enable increase in recycling efficiency.



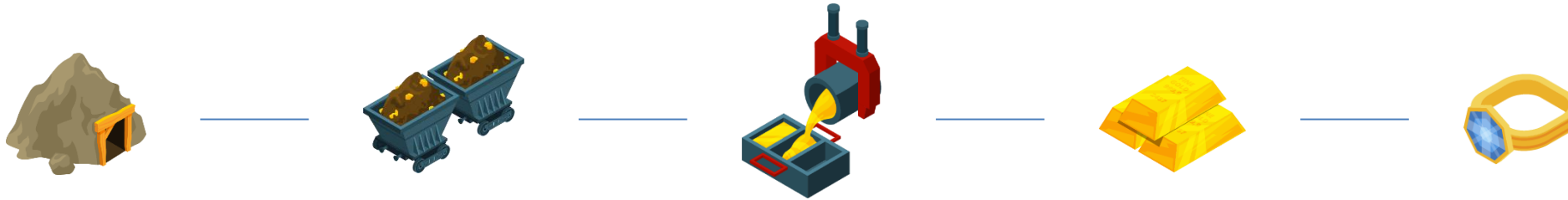
**A revolutionary system to enhance the sorting capability for the Circular & Closed Loop Economy**

- The ability to detect & quantify:
  - The name of the Brand owner
  - The % amount of recycled content
- The type of polymer
- The number of times the polymer has been recycled (loop counts)

# The Perth Mint – Gold Supply Chain Assurance

**Memorandum of Understanding signed in February 2020 with The Perth Mint to create an initiative to focus on the development of the world's first mine-to-marketplace ethical gold supply chain assurance solution.**

From mine to marketplace ethical gold supply chain assurance



- SMX and a wholly owned subsidiary of Perth Mint established trueGold Consortium Pty Ltd (“trueGold”), with SMX and The Perth Mint undertaking the development of a high-tech proprietary supply chain solution utilising SMX’s disruptive technology.
- In November 2020, trueGold agreed to a commercial service contract whereby SMX will be remunerated \$800k over 12 months, for research and development carried out under a specified works program and schedule.
- The solution is based on the utilisation of SMX’s scientifically proven molecular markers and is focused on providing transparency and accountability for all gold industry stakeholders. It will also leverage SMX’s patented proprietary reader to ensure the highest levels of quality and integrity are maintained.
- SMX has designated a team of chemists, physicists, engineers and external advisors working on the development of the marker and adaptation of a reader for marking and identifying gold.
- SMX is now seeking to further advance the partnership with The Perth Mint.

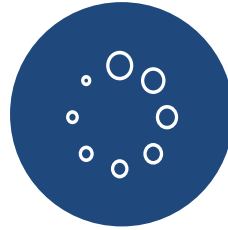
# The Shift has Already Begun

## Product Portfolio



### Sustainable offering

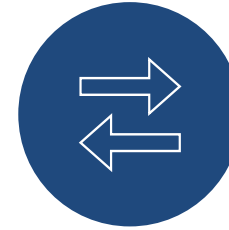
Make product offering more sustainable and encourage sustainable choice of customers



### Product-oriented

Service products to extend product life and recycling of materials

## Business Model



### Use-oriented

Offer the use of products while maintaining ownership to reduce excess production



### Solution-oriented

Offer ecosystem around “sustainable solutions” to help customers become more sustainable

## Concept

## Examples

**Sustainability score**

**Repair/  
remanufacturing**

**Rental**

**Sustainable solution**

**Sustainable offering**

## High end luxury goods industrial applications & technology adoption focused on the traceability of origination of its raw materials

The cooperation's strategic objective is to authenticate materials along the value chain from raw material to reuse. Additional benefits of SMX's technology include the prevention of fraud, substitution, or diversion at any point along the value chain (including retail level). SMX's technology is superior to existing solutions as it is invisible and survives raw material processing.

## Commercial partnership with The Perth Mint to trace and authenticate gold throughout its lifecycle

The partnerships' primary goal is to become the market standard for certifying the origin and authenticity of ethically sourced gold, replacing existing paper trail solutions. Adoption of the SMX technology as market standard will depend on ability to get traction with major gold miners, refiners and major bullion banks.

## Intel Cyber Hardware QA/QC pilot project

In Q4 2020, SMX successfully completed a lab trial of identifying any tampering attempts of a marked PCB with a 100% success rate. Further value creation potential lies in the expansion of this use case to other high security components.

# SMX's Broad Range of Industry Consortia



Membership in the **World Business Council for Sustainable Development** to help unlock the potential of circular economies



Mentors from **American Chemistry Council** with aim to advance recycling of chemicals, e.g., brominated flame retardants



Member of the **Circular Electronics Partnership**, alongside Microsoft, Google and Dell, to solve e-waste globally

“

“There is a huge potential for this kind of technology to revolutionize industries including fashion, electronics, agriculture, gold and precious stones. We look forward to working with Security Matters to help advance our shared goals”

– **Peter Bakker**,  
President and CEO of WBCSD

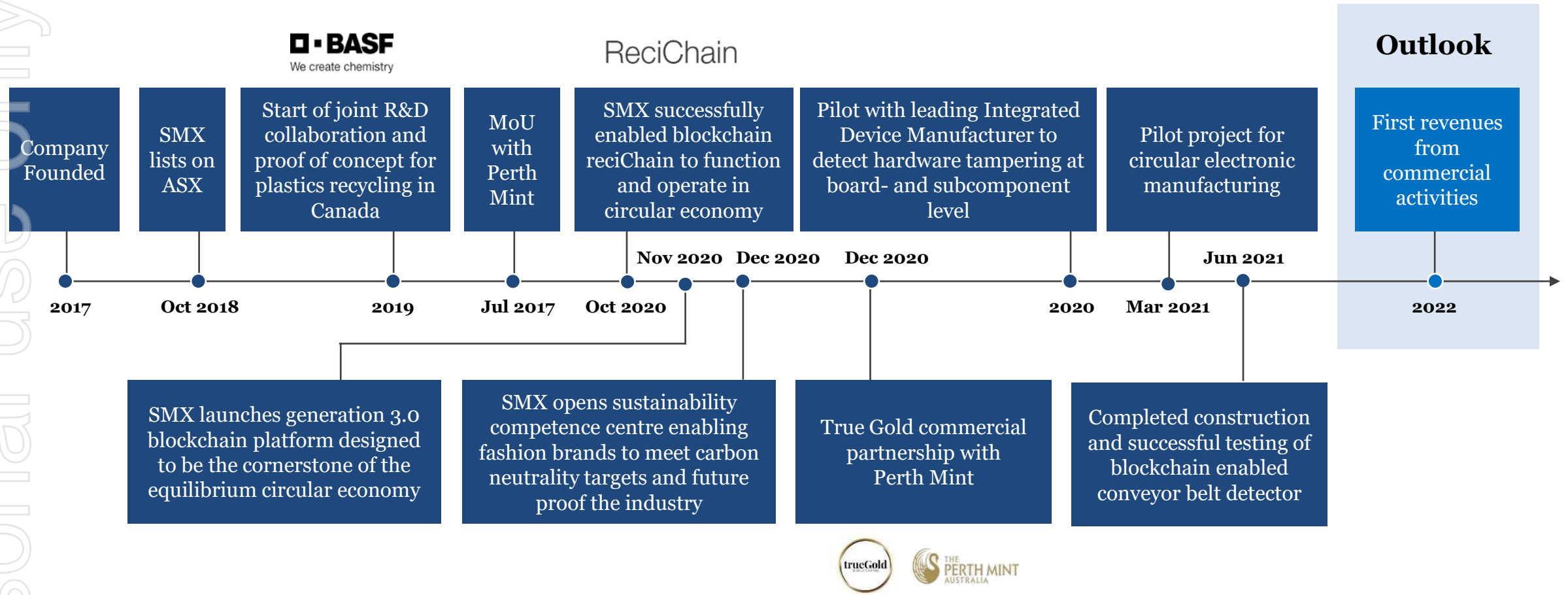
“

“We are grateful to count on broad stakeholder representation throughout the whole lifecycle of plastics [...]. With their support, along with the disruptive technology from Security Matters, our pilot will allow us to move from concepts and policy dialogue to tangible solutions in making advances in plastic circularity [...]

– **Dr. Marcelo Lu**,  
BASF Canada President



# Company Milestones



# Management Team

The SMX team combines deep R&D and commercialization expertise



<b>Dr. Michal Firstenberg</b> VP Manager of Chemistry department & Markers division	<b>Dr. Nataly Tal</b> VP Manager of Physics Department & R&D solutions	<b>Dr. Tehila Nahum</b> VP Global Product Manager & Head of Polymeric Solution Department	Limor Lotker Chief Financial Officer	<b>Gal Shmueli</b> Chief Technical Officer
<ul style="list-style-type: none"><li>10+ years of experience in R&amp;D and academic research incl. resins, polymers.</li></ul>	<ul style="list-style-type: none"><li>Experienced researcher with 15 years of expertise in characterization and fabrication methods.</li></ul>	<ul style="list-style-type: none"><li>10+ years of extensive training and expertise in chemistry incl. coating, additives, polymers.</li></ul>	<ul style="list-style-type: none"><li>A qualified Israel chartered accountant with over 20 years' experience, and previously held a financial leadership role in a company with global operations in the electronic industry</li></ul>	<ul style="list-style-type: none"><li>26+ years of experience in the fields of technology, software engineering, cyber innovation and system engineering</li></ul>



12

additional employees, 4 with natural science Ph.D and 8 with engineering degrees

ersonal use only



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