# Aeris Environmental Ltd ANNUAL GENERAL MEETING 15 NOVEMBER 2013





Aeris Environmental Ltd

# MAURIE STANG NON-EXECUTIVE CHAIRMAN

















# The Global Environmental Market



#### Contaminated ice

November 7, 2013, 6:18 pm | Leisa Goddard | Today Tonight

After collecting 30 samples of ice cubes from various restartice tested could actually make you sick.

How your pillow is the perfect

CIDRAP Center f breeding ground for gruesome

News & Perspective Transport arrray of pests and diseases

Study: Healthcare-linked infections cost US \$10 billion a year

Filed Under: HEALTHCARE-ASSOCIATED INFECTIONS; CLOSTRIDIUM DIFFICILE; PNEUMONIA

Robert Roos | News Editor | CIDRAP News | Sep 03, 2013



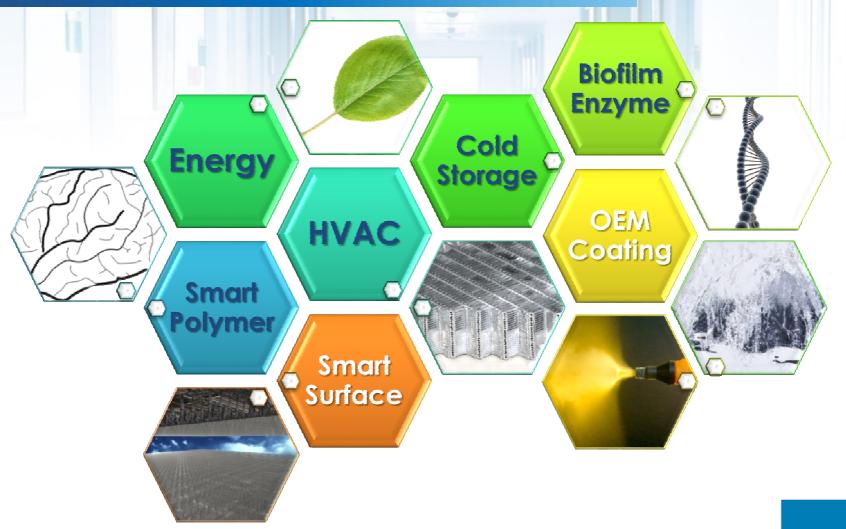








# The Aeris Platforms





# Aeris' Technologies

#### Platforms focused on:

- •Remediation of microbial contamination (biofilm, bacteria, mold, algae) using patented 'clean, green' solutions
- •Long term protection of surfaces and materials from colonization using proprietary polymer/biocide coatings and complexes

#### Key platforms include:

- 'Green' Biocidal/biostatic polymers technologies providing permanent microbial resistance
- Proprietary Biocidal OEM coatings of the highest ecological profile
- •Energy reduction, efficiency improvement and indoor air quality utilising enzymatic remediation and long term coatings
- •Enzymatic remediation of biofilm across water treatment, legionella control and HVAC and beverage applications
- Novel disinfectant solutions with proprietary long term residual efficacy







# **Creating Value**

Priority		Status
China/APAC rollout		Commercial/active
GE Joint Development Agreement	Active	
Lonza technical collaboration and Program	Active	
Smart Polymers	-Actives	Commercial/active
	-Formed articles	Commercial/active
OEM coatings	-HVAC	Commercial
	-Micro-channel	Active
Performance energy	-HVAC	Commercial
Cold Storage		Commercial
Mould remediation		Active
Smart surfaces (healthcare)		Active
NABERS improvement		Active

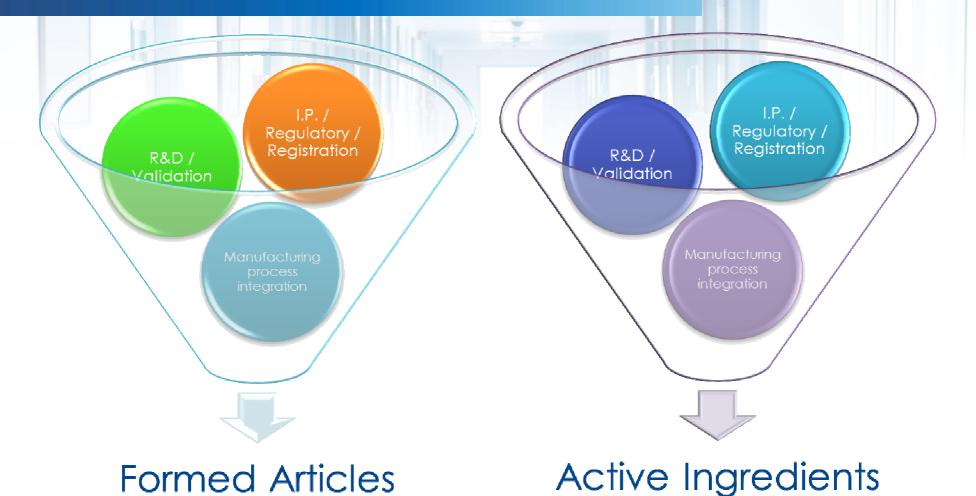


# **Aeris Environmental Ltd**

	30 June 2013
Total Revenue	\$902,612
Cash and receivables	\$279,056
Number of shares on issue	117,746,704
Unused lines of credit	\$380,000



# **Aeris Environmental Ltd**



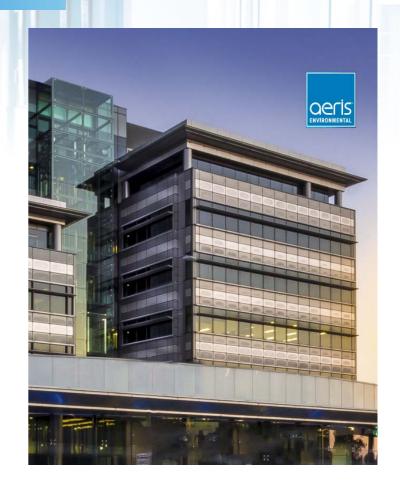


# Targeting strategic relationships

Aeris currently has a number of signed confidentiality agreements.

Key collaborative focus:

- Targeted strategic relationships
- Securing resources
- Providing channels to market
- Early entry into China OEM manufacturing
- Optimised speed of registration and approvals





## The Microbial Control Value Chair

Aeris has the capability to partner with global corporations to provide a phased approach in terms of developing a discrete and large scale microbial control business

#### **Existing channel opportunities**

Leveraging our proprietary technology with fully formulated products to be used on high risk surfaces in commercial, industrial, healthcare and consumer applications.

#### **OEM** integration

Collaboration with multiple OEM's and component manufacturers in adding the proprietary Aeris Microbial control actives to current product applications.

#### Co-development applications

Co-developing novel and value added products utilising OEM partnership channels with Aeris platform technologies.

#### Performance agreements

Energy/carbon reduction and food safety and hygiene, Aeris is developing and testing innovative business models focussed on monetising outcomes and ROI targeting customers across the globe.



# Steve Howard, Chief Sustainability Officer at IKEA is dedicated to sustainability:

- •3. The number of people, in billions, who will be coming **out of poverty by 2030** and joining the global middle class as consumers.
- •12. The number of cities in the world that had a million people two generations ago. Now there are 500 cities with a population of a million people or more.





Aeris Environmental Ltd

# PETER BUSH CHIEF EXECUTIVE OFFICER



# **Focus & Execution**

- Securing additional strategic resources, partnerships, customers and broaden distribution
- Continue to target industries and verticals based on client-need, prior experience and path to market – shopping malls, large commercial buildings, cool rooms and food preparation, hospitals and public transport
- ✓ Integrated solutions for each customer leveraging the AerisGuard brand, history and validation e.g. HVAC, Energy, IAQ and Hard Surface
- ✓ Leveraging current 'blue chip' client base, professional healthcare pedigree and Australian 'credibility' - OEM coatings, HVAC, Energy, IAQ and Hard Surface
- ✓ Demonstrate product differentiation through education and third party validation - case studies and presentations to Central Governments in association with Centre for Disease Control, World Health Organisation, Academia and KOLs



# **Current Priorities**

- Exclusively focus R&D resources on near term and validated customer requirements
- Establish Aeris OEM and manufacturing presence in China
- Expanding current successful SM Mall partnership across both Philippines and the region
- ✓ Commercialise new generation proprietary OEM coatings, including microchannel
- ✓ First sales of commercial and consumer products incorporating AerisGuard antimicrobial smart polymers
- ✓ Launch mould remediation product for the consumer market. Rapid entry into the commercial space
- ✓ Leverage results of Copper Association study on critical nature of long term microbial resistance on surfaces

# **Current Priorities**

- Broaden international cold storage and transport business OEM coatings, hard surface and HVAC
- Rapidly scale the number of trained applicators and distributors through expanded partnerships with national service organisation. Focus on training and technical support in the mining, HVAC and cold storage industries
- Secure first value share contract for HVAC energy services
- Secure first contracts for air compressor service business
- ✓ Use Measurement and Validation model for energy savings to create first ESC
- Expanding both HVAC and cold storage service footprint over 20-fold



## 2013 Financial Results

- Improved trading position for the 2012-13 financial year
- FY13 net operating cash flow reduced to \$670K, from \$1,125K in FY12 down 40%
- FY13 Operating loss after tax reduced to \$1132K, from \$1,298K in FY12 – down 13%
- \$2,100,000 of convertible notes converted to ordinary shares



# Residual Anti Microbial Protection

#### Why does it matter...

- ICU hospital rooms (bed rails, over-bed tables, intravenous poles, and arms of the visitor's chair) were treated with copper, known to have residual antimicrobial activity.
- Healthcare-acquired infections (HAIs) were reduced by 58%.
- Nearly 1 in every 20 hospitalized patients in the United States develops a HAI, resulting in 100,000 deaths per year and "adding \$35.7-\$45 billion to healthcare costs" in the United States.
- Microbes can remain for weeks on hospital surfaces, thereby significantly increasing the risk of HAIs



(Cassandra D. Salgado, MD, May 2013, Infection Control and Hospital Epidemiology)



# The Aeris Advantage

What is residual anti-microbial protection and why does it matter

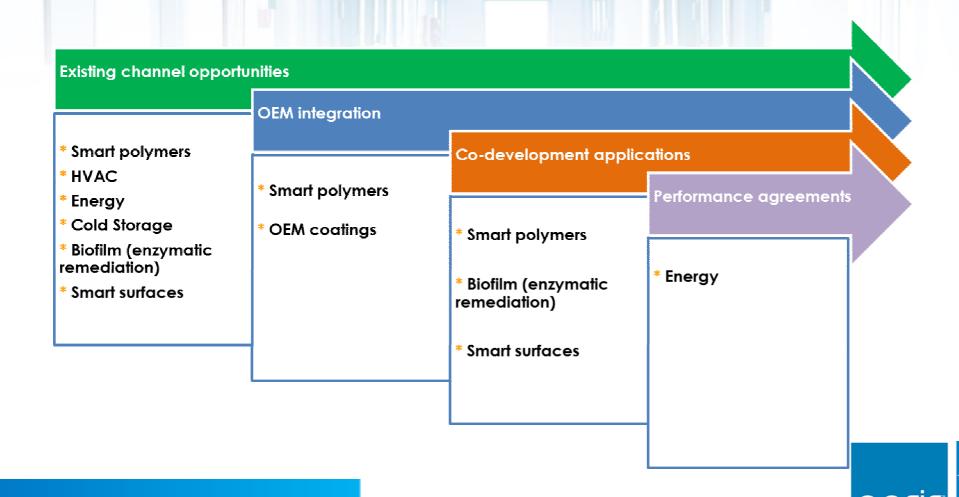
- Aeris technologies have patented and validated short, medium and long term residual anti microbial activity without the physical and cost disadvantages of Copper.
- Across a range of industries from the entire fresh food chain, industrial and consumer applications, microbial resistance in becoming a key value added 'must have' feature.
- Aeris' 'Smart Surface' technologies will allow an end-to-end solution of disinfection/cleaning, surface protection, formed articles and microbially resistant actives to provide a complete and integrated solution.



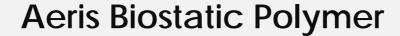




# The Microbial Control Value Chair



# **Smart Polymers value chain**





#### **PVOH Specialty Polymers**



PVOH + Quat Pelletized and Extruded into Final product



PVOH + Quat Specialty Additive Solutions



PVOH + Quat Pelletized and Blended with Another Polymer



# **Smart Polymer Applications And O**

**PVOH + Quat** Pelletized and Blended with Another Polymer

Low volume of other polymer

Medium/high volume of other polymer

#### Anti-microbial wrapping















Moulded articles

#### Anti-microbial surfaces





Chairs



High touch



## HVAC

#### **Urban Metro Trial**

- •12 month trial where 1 Air Handling Unit was remediated and then protected with patented AerisGuard system.
- •Data collected pre and post treatment.
- •Results below are 'actual' data collected from monitoring tools.

#### **Results (summary)**

Parameters	Before Treatment	After Treatment	Criteria Met
Power	712	588	17.4% saved
Air Flow Rate (After Coil)	21.57	38.6	79% improved
Air Flow Rate (Diffuser)	1.12	1.89	69% improved
Set Point Temperature	18.7	14	25% reduction









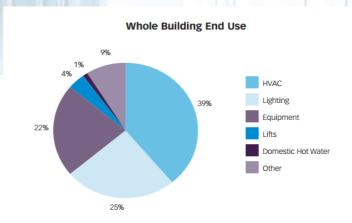
# Energy

#### **HVAC** systems

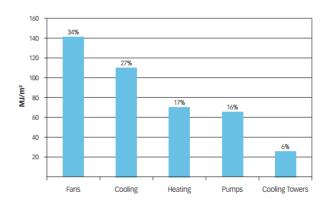
- Consumes 9 per cent of electricity produced in Australia, representing more than 3.6 per cent of Australia's greenhouse gas emissions.
- Creates more than 55 per cent of electrical peak demand in commercial business district (CBD) buildings.
- Consumes billions of litres of water per annum in cooling towers.

#### **Aeris Focus**

- Secure first value share contract for HVAC energy services
- Use Measurement and Validation model for energy savings to create first ESC
- Use NABERS baseline improvement as value added benefit of application of AerisGuard
- Air Compressor and other commercial machinery



#### **HVAC Breakdown**



COAG - Guide to Best Practice Maintenance & Operation of HVAC Systems for Energy Efficiency



# **Cold Storage**

- Leverage Aeris Hygiene Services client portfolio of blue chip national clients by expanding our service footprint – national relationships.
- Establish international cold storage and transport business – Japan, Singapore, China
- Integrated solutions leveraging the AerisGuard brand, history and validation – e.g. HVAC, Energy, IAQ and Hard Surface
- Continue to work with key clients on Measurement and Validation models



Increased Energy Consumption

Compromised Indoor Air Quality

Poor Temperature & Humidity Control





# Biofilm (Enzymatic Remediation)

- Ongoing discussions with large global water treatment company.
- Key meetings with microbreweries and hospitality venues.
- Attendance at the 8th international conference on legionella in Melbourne, Australia including engagement with multiple global key opinion leaders.



# Cantaloupe farmers criminally charged for deadly bacterial outbreak

By Keith Coffman, Reuters Posted Sept. 27, 2013, at 7:22 a.m.

#### Legionnaires bacteria found at leading brewery

Published: 12 Sep 2013 08:48 GMT+02:00 Updated: 12 Sep 2013 08:48 GMT+02:00



# **OEM Coatings**

- Aeris has commercialised OEM coatings in a number of manufacturing sites internationally.
- The market for OEM coatings continues to evolve rapidly with new architectures such as micro channel and ongoing drive for energy efficiency and miniaturisation.
- Leveraging Aeris' early successes, the Company is now targeting the key global manufacturing centres, including China, Malaysia, Thailand and the USA on its extensive range of OEM solutions.
- Aeris has identified a high volume market in refrigerated shipping containers, of which, IR is a key player as a priority early entry market.
- Air Compressor and other commercial manufacturers.







### **Smart Surfaces**

- Mould treatment remediation and prevention identified as a priority market.
- Validation studies now undertaken demonstrating highly differentiated AerisGuard performance.
- Advanced program for implementation of Smart Surface technology into a range of commercial products including paper towels, wipes, and surface disinfectants with residual.
- Current initiative for application of smart surfaces with residual in food transport and processing.

