

# Towards and innovative future

Innovation Management in complex environments

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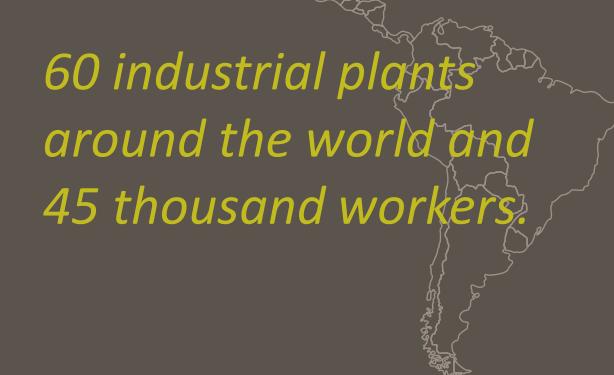
**arauco**



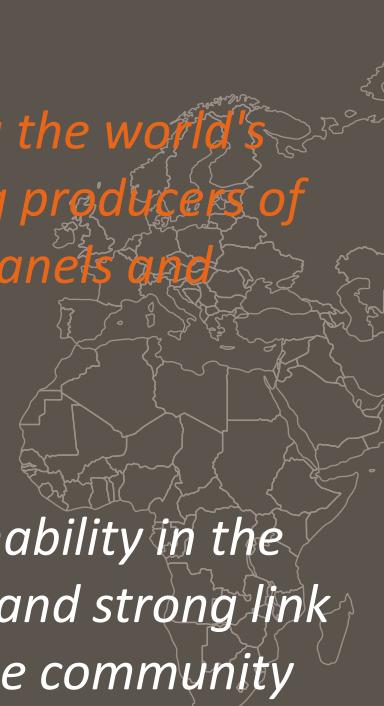
*1.7 million hectares  
of forest plantations*



*Among the world's  
leading producers of  
pulp, panels and  
wood*



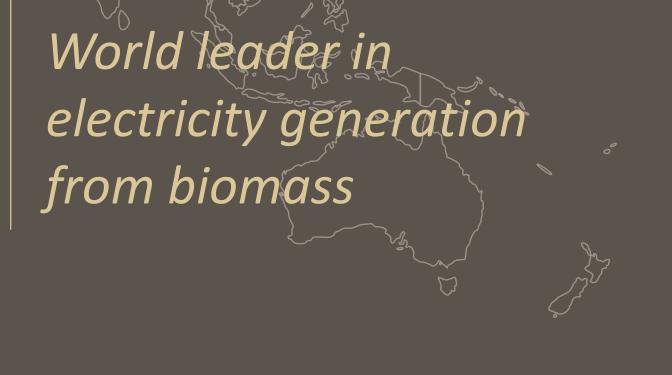
*60 industrial plants  
around the world and  
45 thousand workers.*



*Sustainability in the  
center and strong link  
with the community*

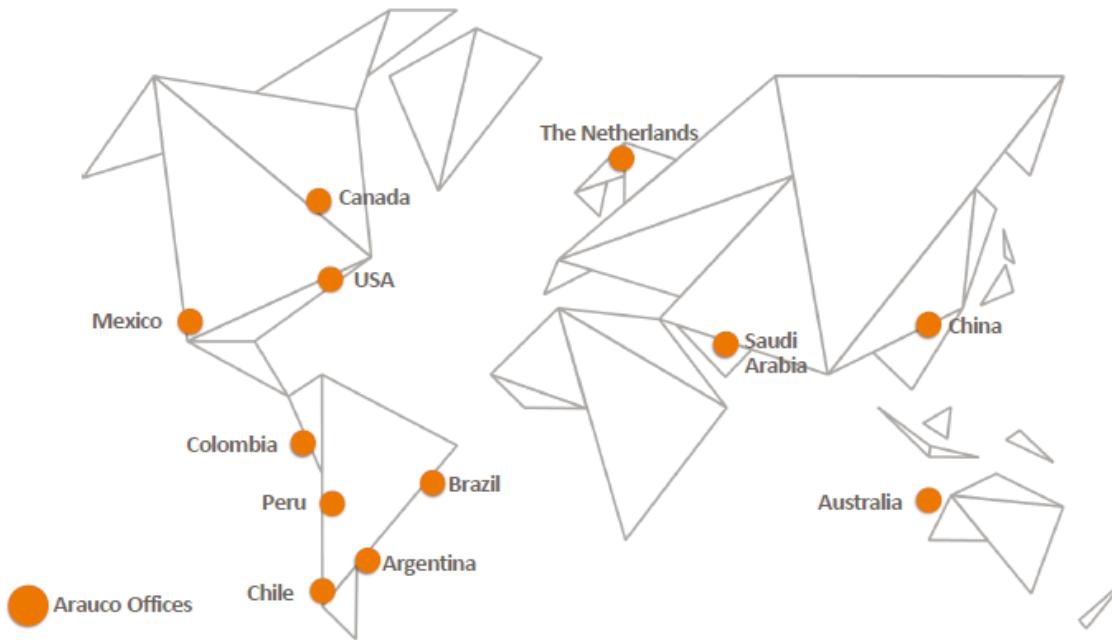


*Ability to develop  
multiple projects  
simultaneously*



*World leader in  
electricity generation  
from biomass*

# Diversified Sales

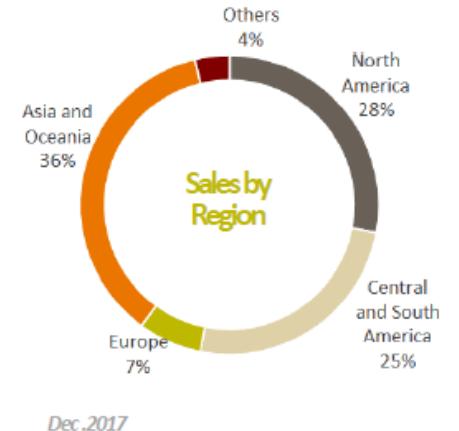


## Revenues

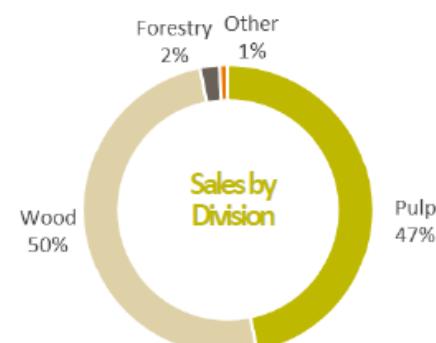


Over 65%  
Of our revenues go to export

Dec. 2017



Dec. 2017



Dec. 2017  
Pulp and Wood products includes sales energy

**araucō**

## FIVE STRATEGIC BUSINESS SEGMENTS in a diversified operational footprint

	FORESTRY	PULP	WOOD PRODUCTS	ENERGY	
	698,984 Ha	5 Mills 2,887,000 tons	5 Mills Plywood: 710,000 m <sup>3</sup> MDF: 515,000 m <sup>3</sup> HB: 60,000 m <sup>3</sup> PB: 300,000 m <sup>3</sup>	8 Sawmills 4 Remanufacturing facilities 2,588,309 m <sup>3</sup>	10 Power Plants 606 MW Surplus: 209 MW
	131,956 Ha	1 Mill 350,000 tons	2 Mills MDF: 300,000 m <sup>3</sup> PB: 260,000 m <sup>3</sup>	1 Sawmill 1 Remanufacturing facility 317,982 m <sup>3</sup>	2 Power Plants 78 MW Surplus: 8 MW
	128,094 Ha		2 Mills MDF: 1,220,000 m <sup>3</sup> PB: 310,000 m <sup>3</sup>		
	73,960 Ha <sup>(1)</sup>	1 Mill 650,000 tons <sup>(1)</sup>			1 Power Plant 82 MW <sup>(1)</sup> Surplus : 36 MW
			8 Mills MDF: 1,470,000 m <sup>3</sup> PB: 1,520,000 m <sup>3</sup>		
			10 Mills <sup>(2)</sup> MDF: 740,000 m <sup>3</sup> PB: 1,165,000 m <sup>3</sup> OSB: 258,000 m <sup>3</sup>	1 Sawmill <sup>(2)</sup> 32,850 m <sup>3</sup>	
TOTAL	1,032,994 Ha	3.9 MM tons	8.8 MM m <sup>3</sup>	2.9 MM m <sup>3</sup>	766 MW

# Our Main Products



Pulp

Sales Volume: 3,772 Th. AdT



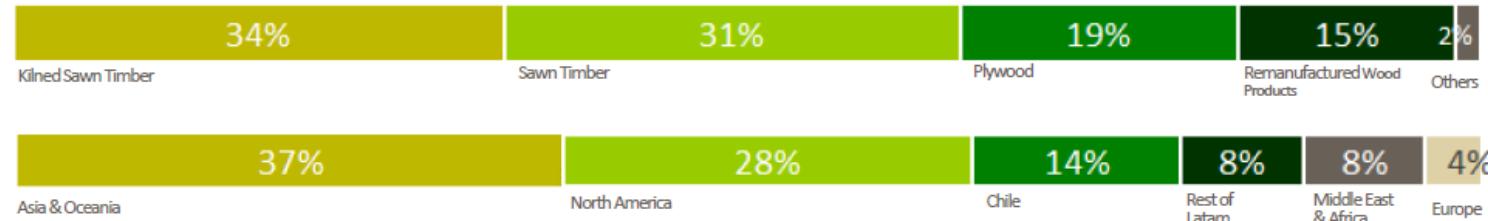
Panels\*

Sales Volume: 5,100 Th. m3

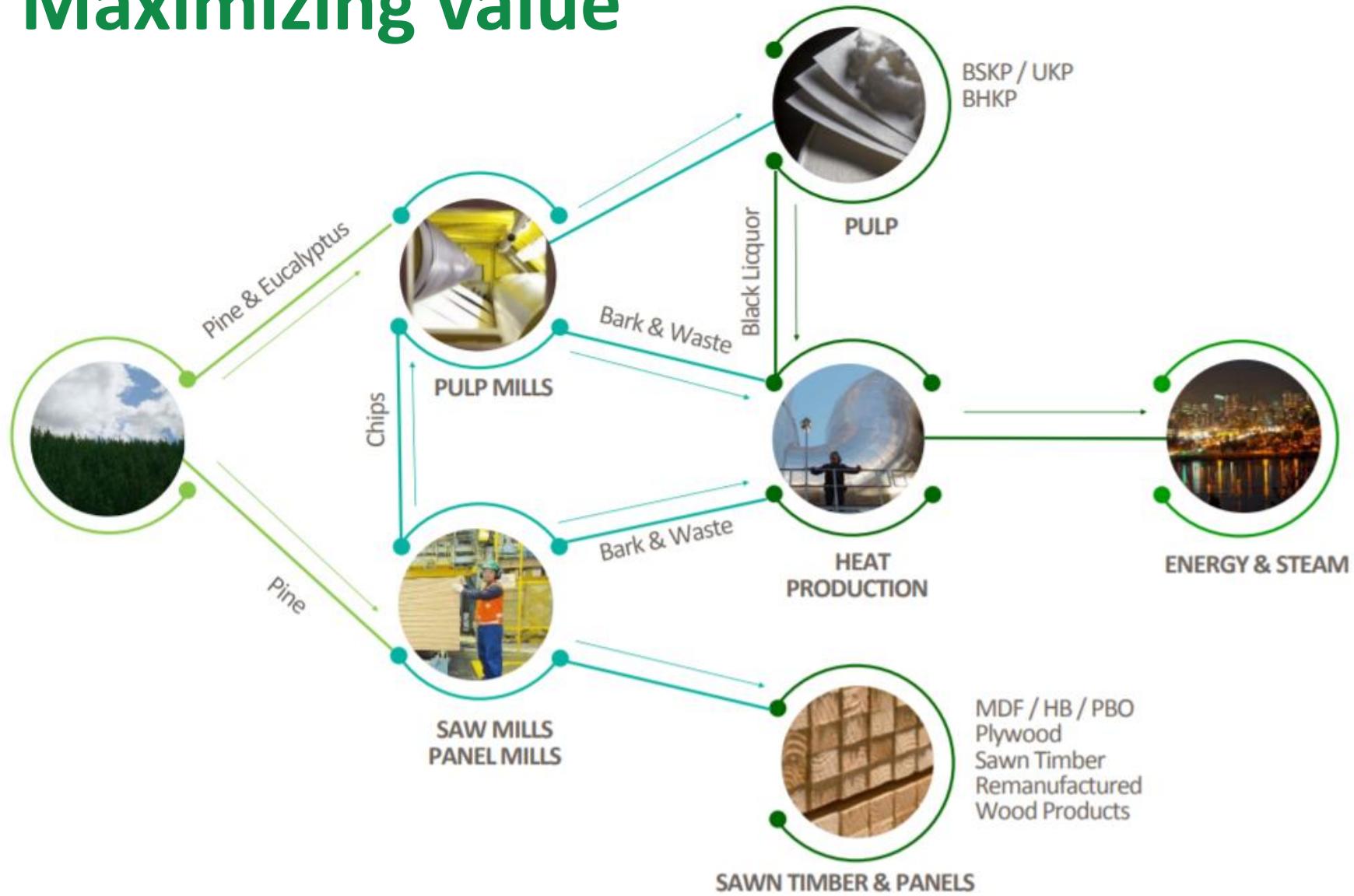


Sawn Timber

Sales Volume: 2,921 Th. m3



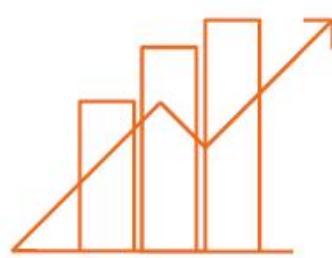
# Maximizing value



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Access to low-cost wood



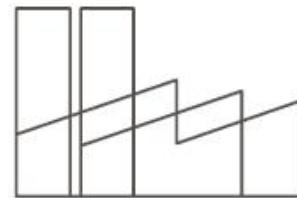
Economies of scale



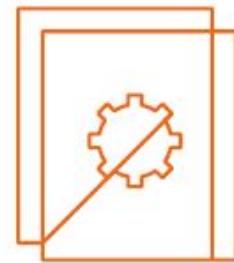
Bioenergy generation & self sufficiency in electricity



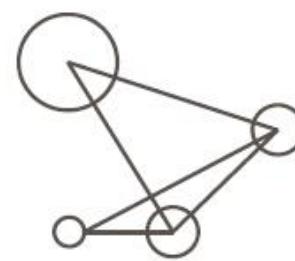
Logistics advantage



Centralized strategic sourcing



Lean management



Research & Development

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## Communities

Our operations directly benefit more than **14,000** workers and indirectly other **21,000** workers through our contractors.

**WE RESPECT LOCAL COMMUNITIES and CONTRIBUTE TO THEIR DEVELOPMENT** through responsible management of our operations and the implementation of initiatives that generate value based on a method that fosters dialogue and participation.

## Campus Arauco

- Center for Higher Education and Training for employees, based on an **INNOVATIVE ACADEMIC METHOD** that combines the educational process with on-the-job work experience
- Campus Arauco offers **4 TECHNICAL CAREERS** for more than **660 STUDENTS**, and over **200,000 ANNUAL HOURS** of training for ARAUCO employees and service-providing business employees

## Education

- 26 YEARS PRESENT in communes where we operate in regions Maule, Bío Bío and Los Ríos
- The purpose is to **DESIGN, IMPLEMENT AND ASSESS** teacher-improvement programs

## Reconstruction Plan

- **SUSTAINABLE RECONSTRUCTION PLAN** for the city of Constitución, that was devastated by the earthquake and tsunami on February 27, 2010
- The PRES Plan encompasses **28 PROJECTS** that are in different stages of development

## Housing for Workers

- This program promotes the construction of houses and housing units with a **HIGH TECHNICAL** and **SOCIAL STANDARDS** for company employees and their neighbors
- 9,000 houses will be built between 2013 and 2017

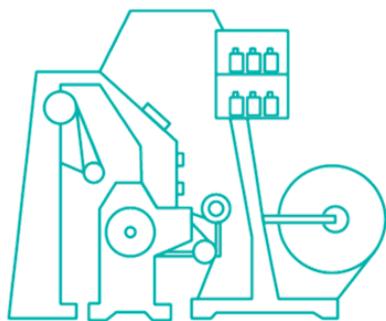
## Arauco Cultural Center

- The **2010 EARTHQUAKE** caused structural damage to the local theater and the municipal library
- Arauco decided to build the cultural center to replace the damaged buildings
- The center is **1,400 SQUARE METERS**, which includes the library, theater, reading rooms and public spaces

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The world is going through a fourth industrial revolution, driven by intelligent and intelligent automation and marked by an unprecedented rate of change

### 18-19 Century



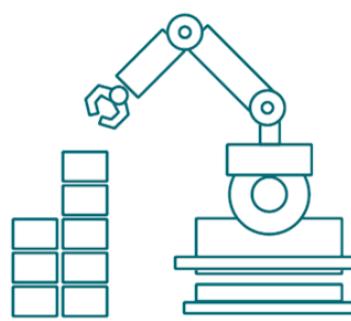
**FIRST REVOLUTION**  
Energy Generation

### 20 Century



**SECOND REVOLUTION**  
Industrialization

### 1970-2000



**THIRD REVOLUTION**  
Electric Automatization

### 2010-?

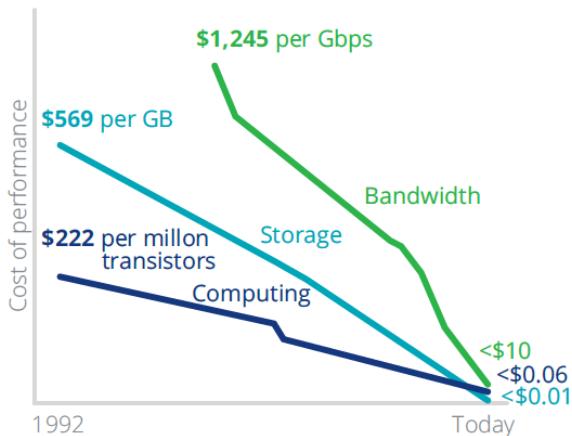


**FOURTH REVOLUTION**  
Smart automation ... and exponential change

# The pace of change is exponential and companies are not immune

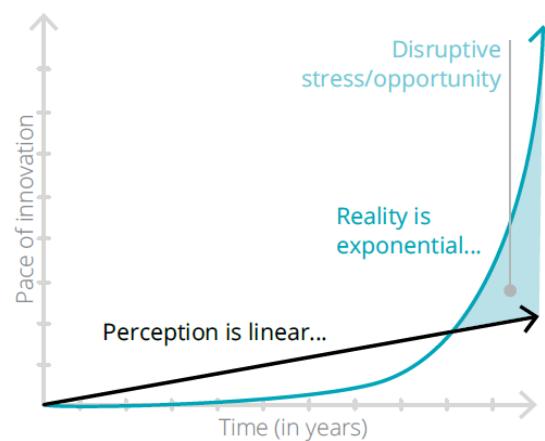
1

Substantial cost reduction in all computing power, storage and the use of the Internet has led to ...



2

... exponential rate of change transcending industry barriers and national borders ...

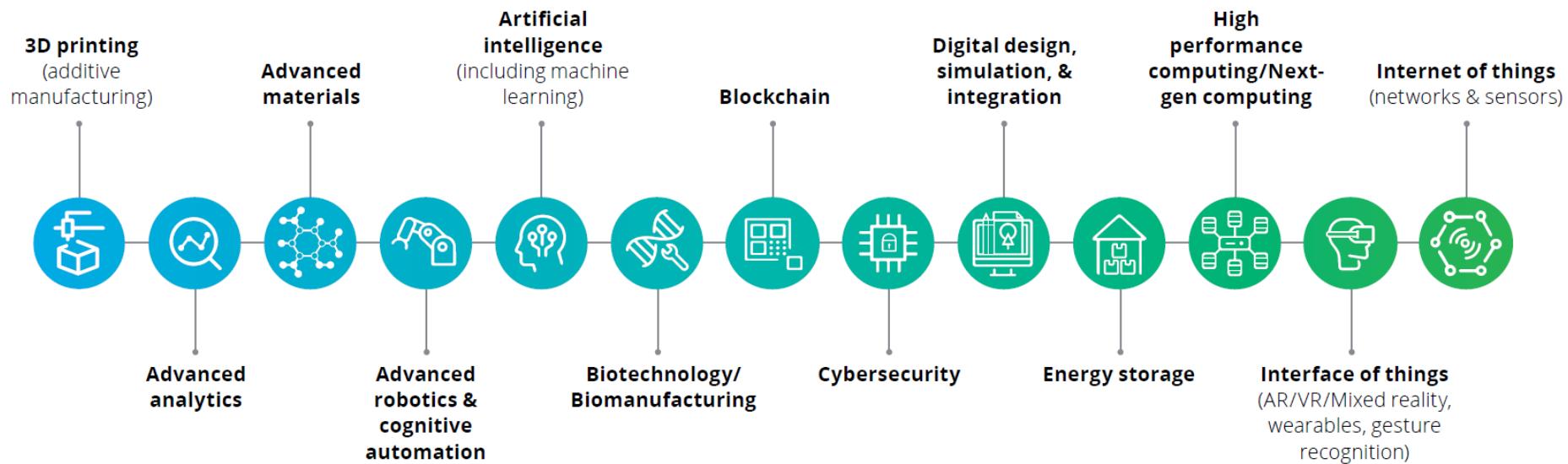


3

... that is creating opportunities and the disruption through multiple industries ...



Exponential technologies can be used in central operations and markets to move an organization beyond the scope of incremental change, and in the limit to allow true transformational growth and new business models.



## 1. Our Model of Innovation

**Innovation is the invention of something new or not done before but successfully on the market, and whether the innovation breaks into homes, the impact is greater.**

**Every successful innovation includes various types of innovation, because they must think like systems and build around experiences that are intuitive and simple to understand for users to accelerate their adoption, and to design and implement complex for organizations to hinder its replicability.**

# The 3 impacts of the Arauco innovation model

# 1

## ECONOMIC

Develop innovative projects that allow us to create new products and services that create more value for the client and that allow to obtain positive economic results for Arauco and its surroundings.

# 2

## CULTURAL

Establish a culture in which innovation and entrepreneurship emerge as a natural alternative in solving problems and seizing opportunities.

# 3

## RELACIONAL

To have a company open to talent, ideas, external alliances that allow to create value for the clients with others and establish of the relation with the ecosystem a permanent source of inspiration



## Phase 1

Select Challenges

## Phase 2

To plan & Generate Commitment

## Phase 3

Explore & Discover

## Phase 4

Create Value

## Phase 5

Delivery & Value Capture

Through strategic work with the Innovation Committee, IDENTIFY and SELECT Innovation Challenges

This work is done in a manner consistent with the administration of the Innovation Portfolio and aligned with the Innovation Architecture

Together with the challenge leaders and the managers, the **strategic Intentionality** of the challenge expressed in a Navigation Letter is defined.

A survey of the State of the Art is made (internal and external) and the appropriate **Teams are formed for the development of the challenge**

Through a process of installation of capacities in innovation (divergence and convergence) Opportunities are identified and **Business Cases** are developed

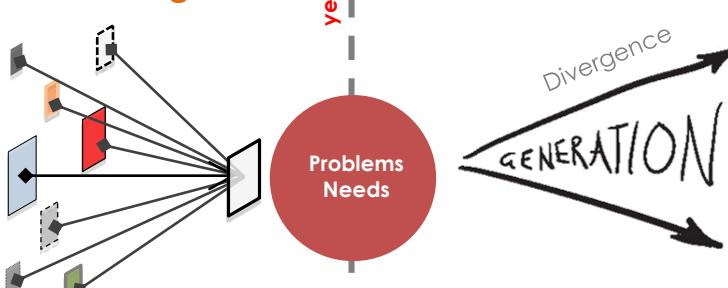
Once the business cases have been approved, a search and **validation process** of Viable, Repeatable and Scalable Business Models is started through the **development of experiments** (prototypes and pilots) to then develop an Initial Business Plan

To finally enter a phase of value capture with the development of **Commercial Exploitation Projects**

dir & ge

yes/No

BUSINESS CASES



1-3 month

CREATING OPTIONS

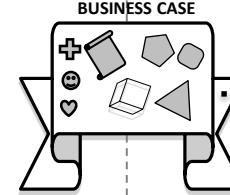
3-6 months

CREATING ADDRESS

6 a 24 months

Project Fast-Track

SYNTHESIS



yes/No

1

2

3

4

VALIDATION OF A VIABLE, REPEATABLE & SCALABLE BUSINESS MODEL

JACKPOT



yes/No

1

2

3

4

yes/No

Review / Planning

Generation and Refinement of alternatives

Validation of Assumptions

Start up

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marcelo romero @romero\_morstadt · Nov 6

Felicitaciones Arauco por ganar premio Avoni 2014 al mejor producto industrial con melamina Vesto@innovarauco [pic.twitter.com/Fq9vkMGd7a](http://pic.twitter.com/Fq9vkMGd7a)

2 ⋮

melamina  
**VESTO**

**GANADOR DEL PREMIO NACIONAL  
AVONNI 2014 A LA INNOVACIÓN INDUSTRIAL**

Por el desarrollo de la primera y más efectiva Protección de Cobre Antimicrobiano de melamina.



Tecnología desarrollada con el apoyo de:





<http://www.acercaredes.org>

<https://youtu.be/90hfSJZNF3c>



#### Articulamos Redes Locales.

Articulamos Redes Locales con Líderes, Emprendedores, Empresas, Servicios Públicos y Universidades.



#### Vinculamos y gestionamos.

Vinculamos y gestionamos habilidades, conocimientos y recursos complementarios



#### Apoyamos Líderes.

Apoyamos líderes y emprendedores con energía para trabajar por un mejor futuro para su territorio

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<http://www.masmaqui.com>

<https://youtu.be/Ld-tpcoxY9U>



ES EN IT



Todo el poder antioxidante del **maqui** en sus formatos de **bebida natural antioxidante** y **cápsulas de maqui reforzadas con propóleo**.

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<http://www.araucostore.cl>



**ARAUCO Store**

**PARTICIPA DE NUESTRA ¡SUBASTA! DE ESTA SEMANA**

**Terciado Ramurado Nivel 7 2440x1220 mm**

Cantidad de piezas:	1000
Precio inicial:	\$7.300.000 + IVA
Fecha de inicio:	15/05/2016 10:00
Fecha de término:	20/05/2016 15:00

**SUBASTAR AQUÍ**

**PRODUCTOS DESTACADOS**

**Terciado Muebleria 9 2440x1220 mm**  
**\$7.435 por pieza**  
**VER PRODUCTO**

**Durolac Blanco 3 2440x1520 mm**  
**\$3.530 por pieza**  
**VER PRODUCTO**

**Melamina Lila 18 1830x2500 mm**  
**\$23.931 por pieza**  
**VER PRODUCTO**

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<http://www.lookid.cl>

[https://youtu.be/5ciapy-QI\\_w](https://youtu.be/5ciapy-QI_w)

# lookid

construye • diviértete • aprende



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<http://www.medo-arauco.com>

<https://youtu.be/LBymsggsU-0>

me•do



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<http://www.e2echile.com>

<https://youtu.be/6JLJjbMMWz4>

**etex**  
inspiring ways of *living*

Inicio Quiénes Somos Equipo Qué Hacemos

**E2E, MEJORANDO LA HABITALIDAD Y SUSTENTABILIDAD PARA  
LA VIDA DE LAS PERSONAS.**

Estamos creando una nueva forma de habitar, que sintonice con las nuevas generaciones.

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## Digitalización de procesos productivos de Arauco

75% Más liviano  
32% Más Fuerte  
50% Mas Eficiente



Producción Directa y Flexible sin herramientas ni moldes



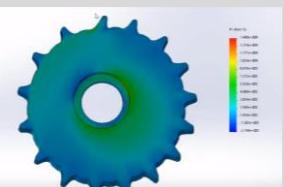
Libertad en el diseño y la Personalización para las Masas



Generar formas complejas sin aumentar el costo



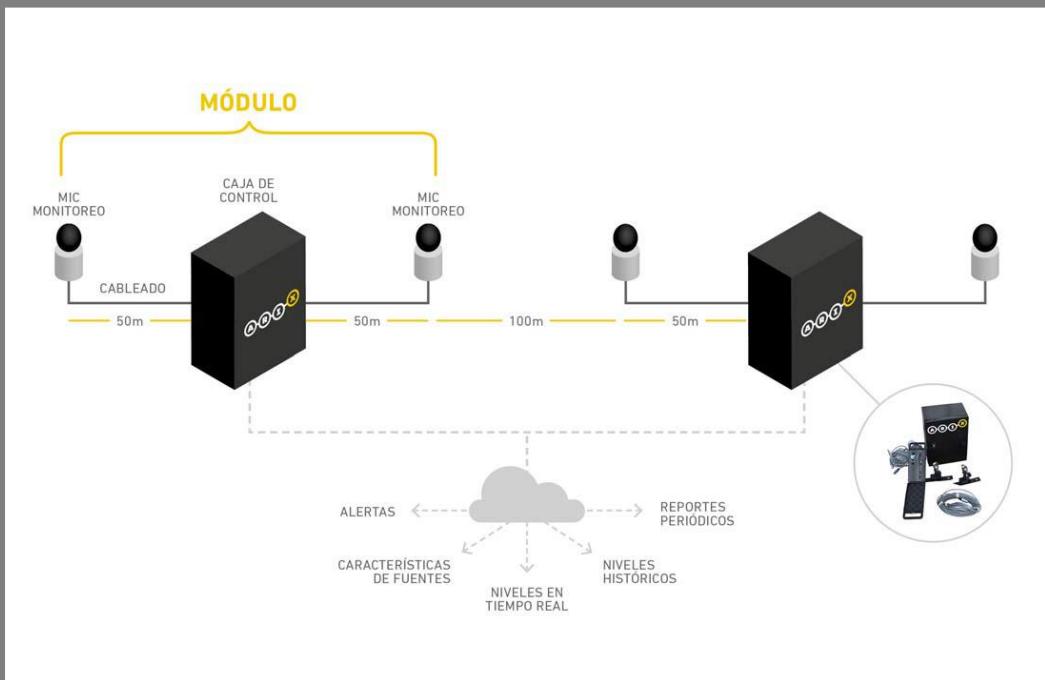
Suministro “On-Demand” sin la cadena tradicional ni inventario físico



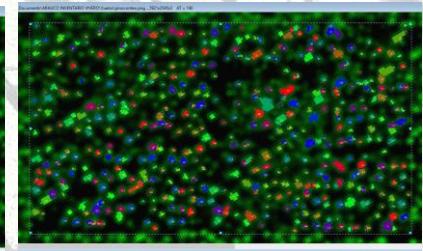
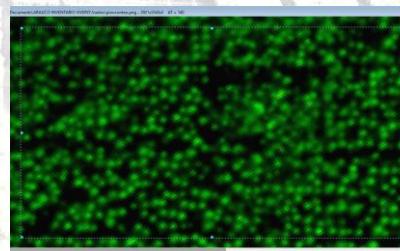
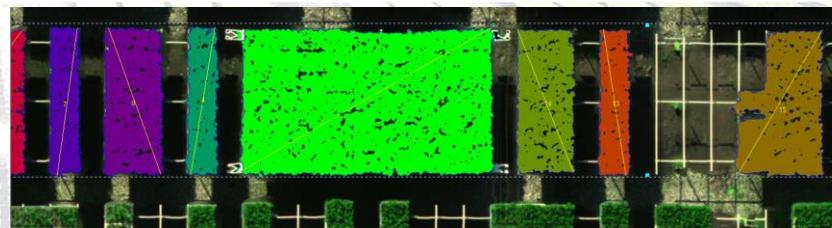
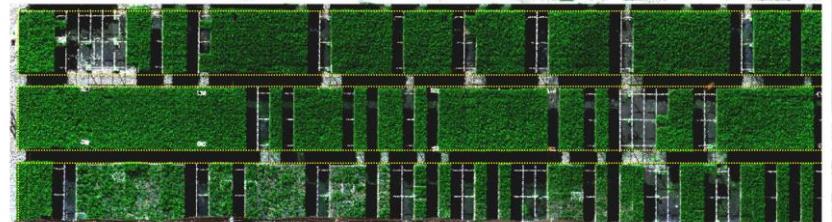
## MONITOREO ACÚSTICO EN LÍNEA

Buscamos generar un sistema inteligente y automatizado que entregue:

- Niveles actuales en (dba) totales y por banda.
- Niveles históricos en (dba) totales y por banda.
- Alerta en tiempo real ante eventos de ruidos,
- Ubicación de potenciales fuentes
- Audio de eventos criticos
- Aprendizaje Predictivo Continuo (IA)

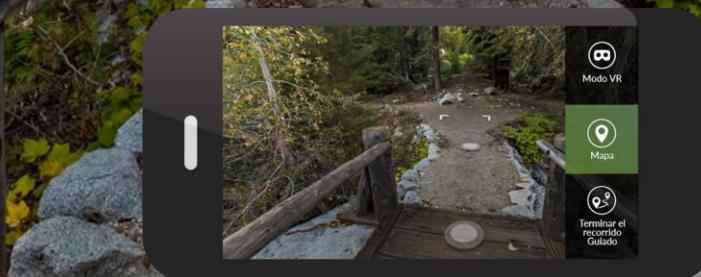


## SERVICIO DE INVENTARIO EN VIVEROS FORESTALES



- Errores sobre el 10% en la mayoría de las muestras
- Mucha Variabilidad en los resultados (método no consistente)
- Muy dependiente de las condiciones de la imagen (luz, nitidez, etc)
- No sirve para Eucaliptus debido al efecto de entrelazamiento de tallos y follajes

## TOUR VIRTUAL PARQUE ONCOL

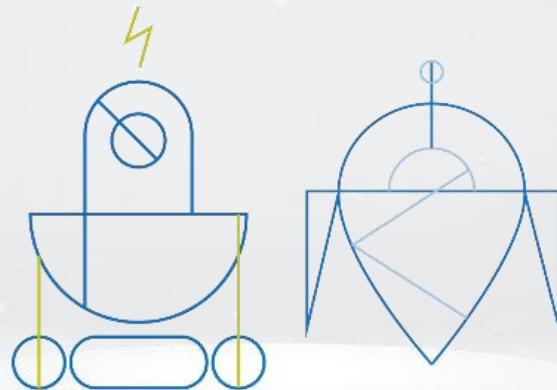


<https://youtu.be/GpiHOBiznE8>

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# 3er DESAFÍO DE INNOVACIÓN ABIERTA 2018



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# *... and finally*

In order to incorporate Arauco into **strategic innovation in order to create new** products, services and solutions with a long-term market, will required the development of new perspectives, customers and market, creating an **INNOVATION ECOSYSTEM** based on:

- Strategic alignment to innovate
- Gap Detection for Innovation
- Innovation Portfolio Management
- Test and accelerate ideas for innovation
- Create innovation intercompany challenges
- Links to international open innovation ecosystems
- Work closely with universities and other innovation centers

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