



e-Mining @ School

**Models de negoci d'Economia
Circular**

eurecat!

**Frederic Clarens
26 Abril 2019**

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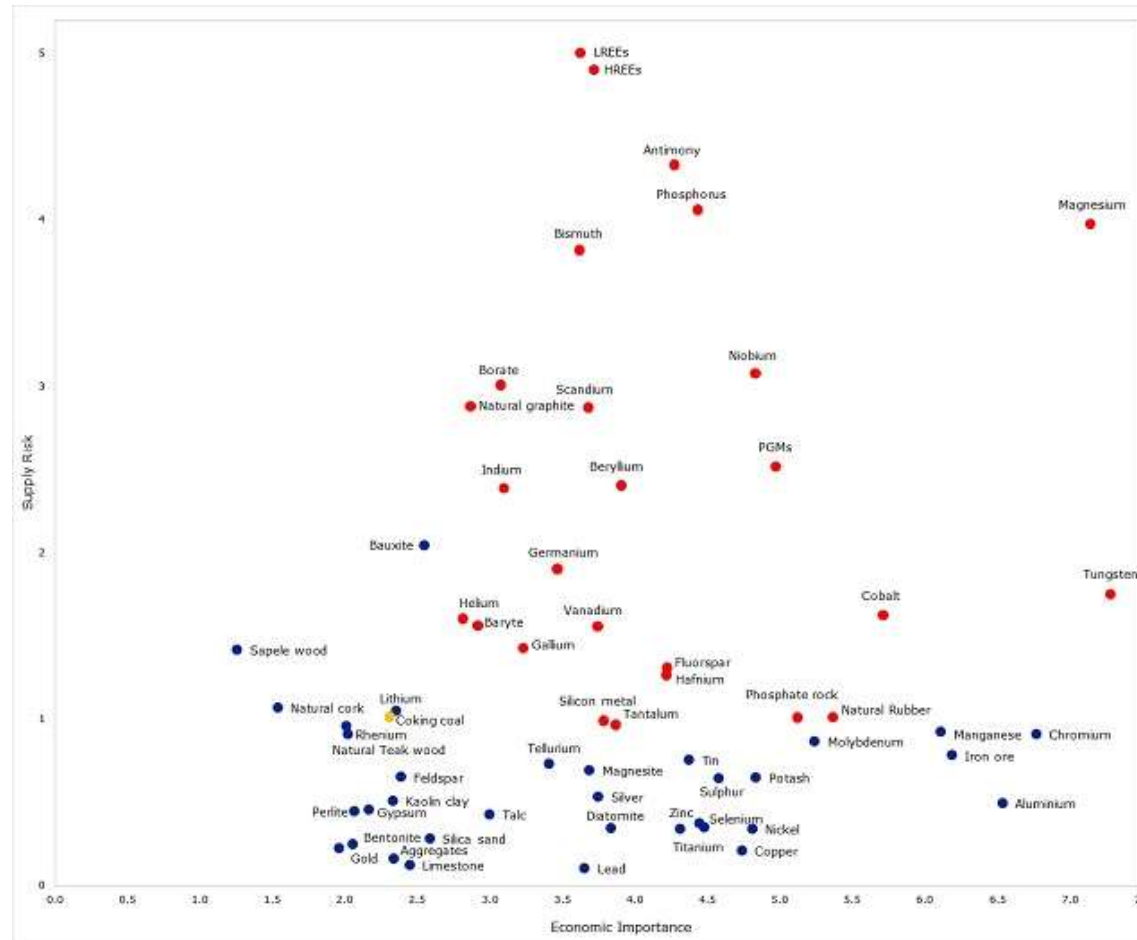
- **Matèries primes crítiques**
- **Que es Economia Circular**
- **Models de negoci en economia circular**
- **Exercici: model Canvas. Planificar un model de negoci**

¿Qué són les matèries primeres (*raw materials*)?

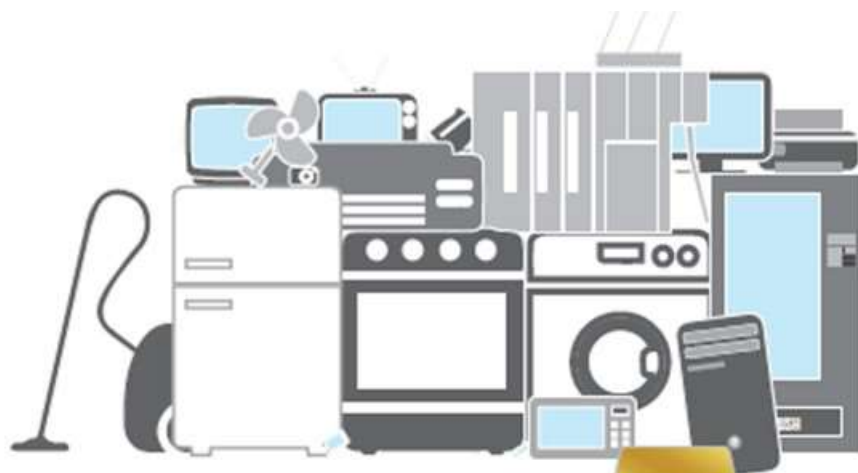
Les matèries primes són imprescindibles actualment pel desenvolupament de l'economia europea. Formen una base industrial sòlida, produint una àmplia gamma de productes i aplicacions que s'utilitzen per la vida quotidiana i les tecnologies modernes.

Els minerals i els metalls representen la base de qualsevol procés de producció industrial. Proporcionen productes d'ús quotidià i també noves solucions tecnològiques i industrials.

¿Qué són les matèries primeres (*raw materials*)?



¿Quin valor tenen els RAEE?



Material	kilotons (kt)	Million €
Fe	16,283	3,582
Cu	2,164	9,524
Al	2,472	3,585
Ag	1.6	884
Au	0.5	18,840
Pd	0.2	3,369
Plastics	12,230	15,043



Estimated value of raw materials at

55 BILLION EUROS

Economia lineal



Limitacions de l'economia lineal

- Pèrdua de valor dels materials i productes
- Escassetat de recursos i preus volàtils
- Residus generats / problemes ambientals

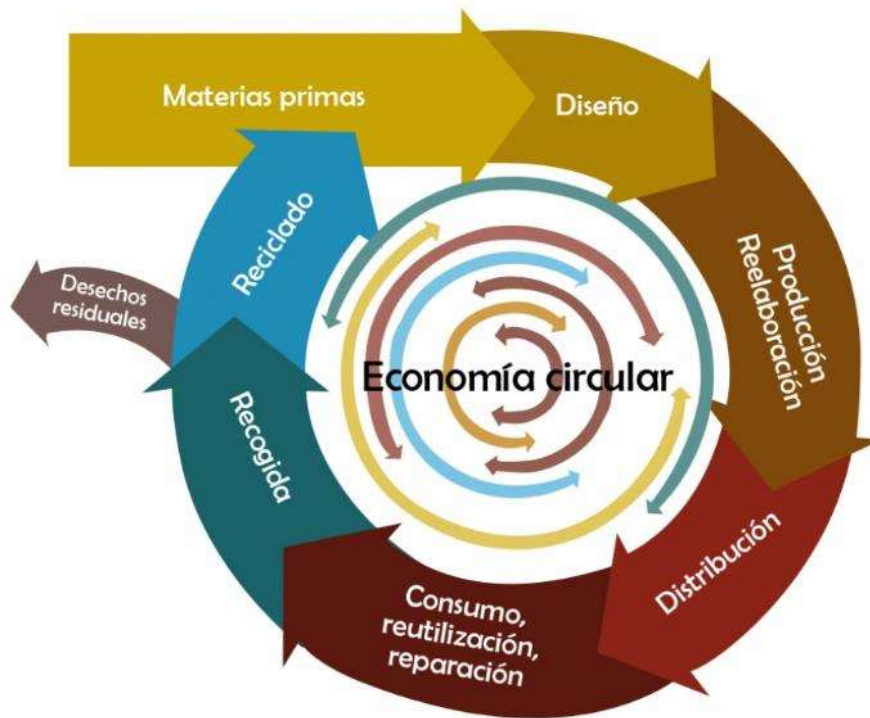
Linear Economy - What doesn't work?

"Every year about 80% of the materials used to produce consumer goods, worth \$ 3.2 trillion, are not recovered"
(Nguyen, Stuchtey & Zils 2014)

"Humanity requires more than 50% more than what the planet can generate"
(Global Footprint Network 2012, p.21)

¿Y si convertim els residus
en un recurs?

Economía circular



Fuente: Comisión Europea



Fuente: <https://www.worldsteel.org/en/dam/jcr:00892d89-551e-42d9-ae68-abdbd3b507a1/Steel+in+the+circular+economy+-+A+life+cycle+perspective.pdf>

OUTLINE OF A CIRCULAR ECONOMY

PRINCIPLE

1

Preserve and enhance natural capital by controlling finite stocks and balancing renewable resource flows
 ReSOLVE levers: regenerate, virtualise, exchange



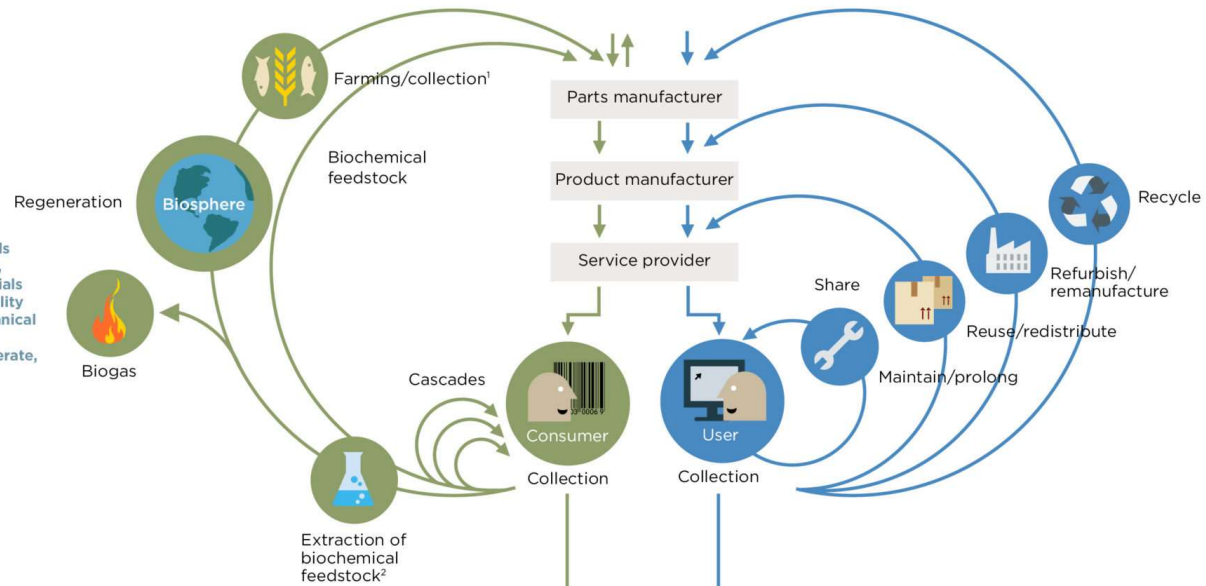
Renewables flow management

Stock management

PRINCIPLE

2

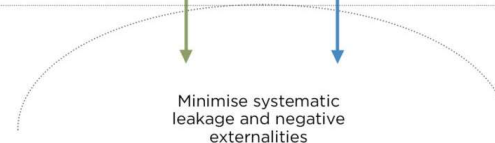
Optimise resource yields by circulating products, components and materials in use at the highest utility at all times in both technical and biological cycles
 ReSOLVE levers: regenerate, share, optimise, loop



PRINCIPLE

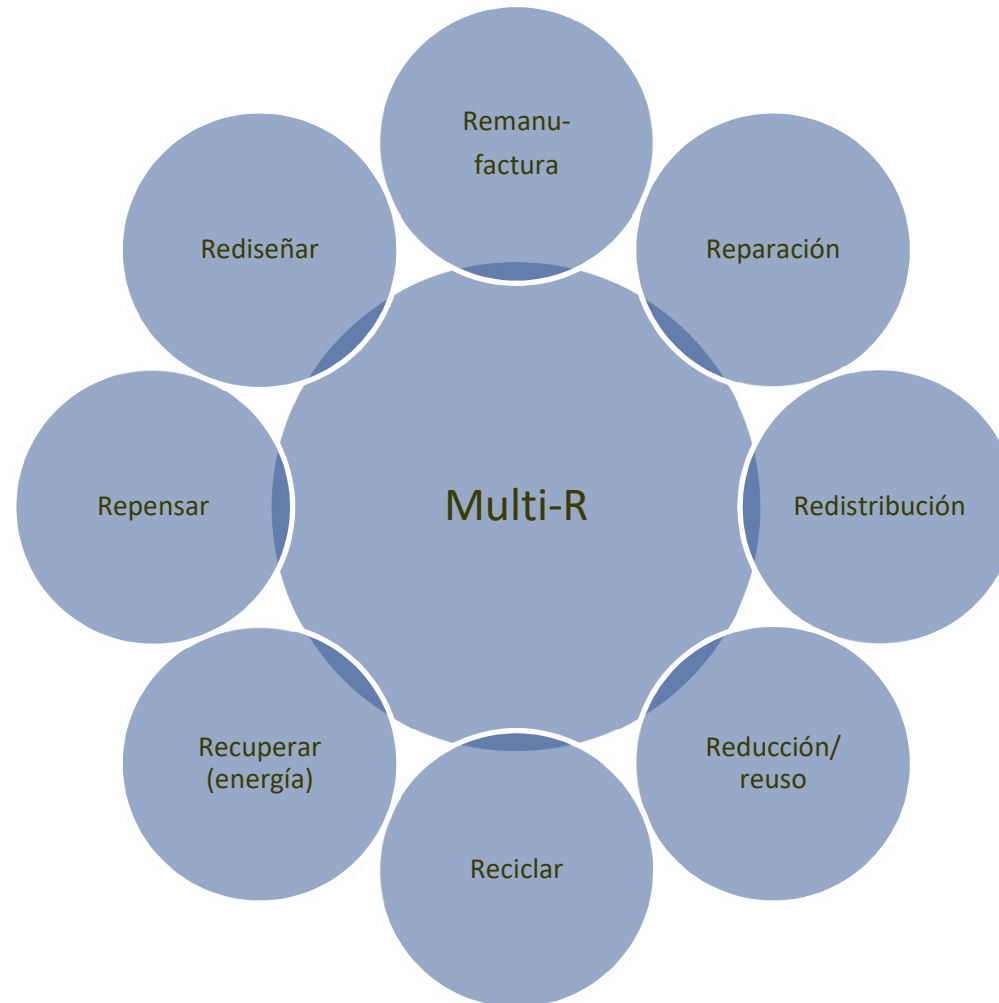
3

Foster system effectiveness by revealing and designing out negative externalities
 All ReSOLVE levers



1. Hunting and fishing
 2. Can take both post-harvest and post-consumer waste as an input
 Source: Ellen MacArthur Foundation, SUN, and McKinsey Center for Business and Environment; Drawing from Braungart & McDonough, Cradle to Cradle (C2C).

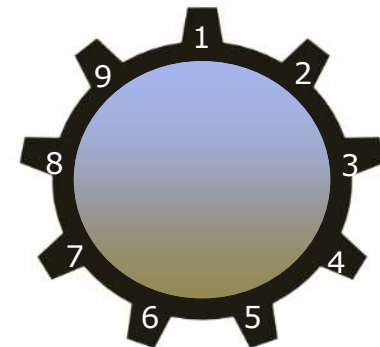
ECONOMÍA CIRCULAR: Aproximación multi-R



Fuente: Adaptado de ACR+

POTENCIALES BENEFICIOS PARA LAS EMPRESAS

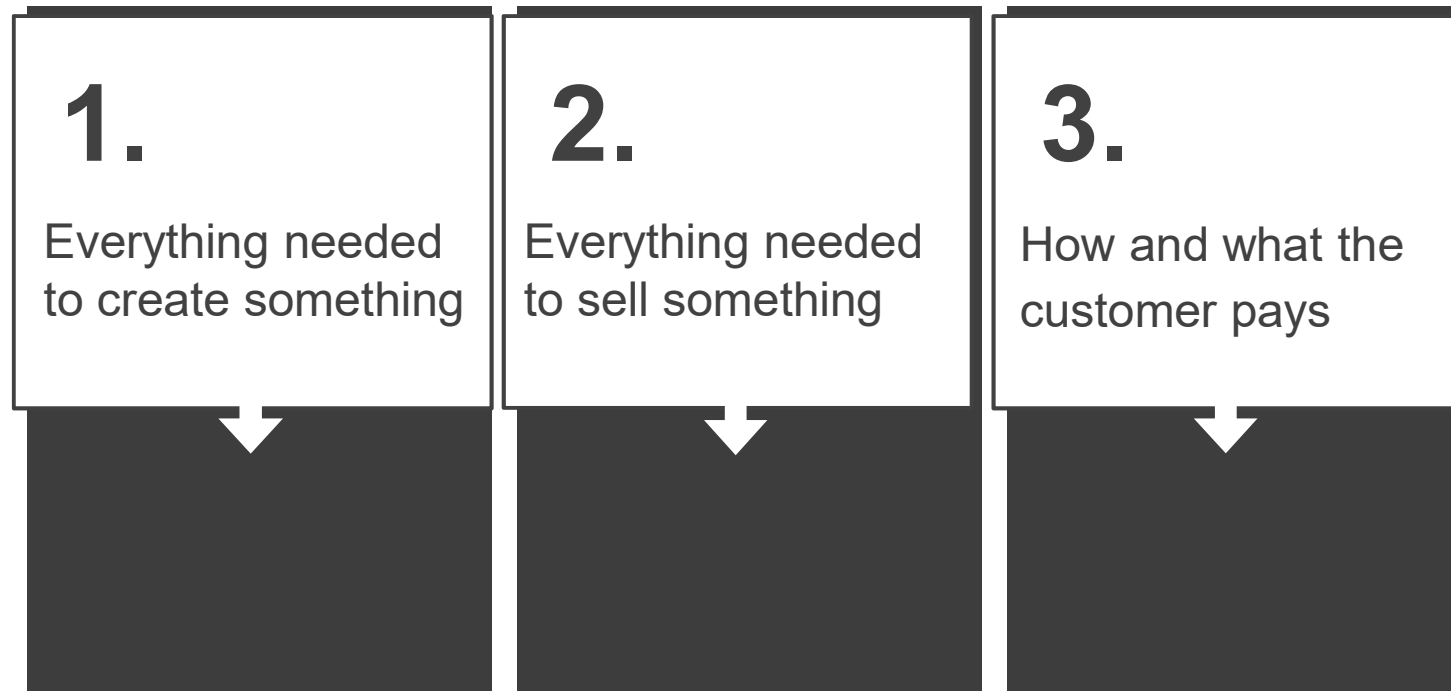
1. Única garantía de competitividad a medio y largo plazo
2. Abrir nuevos mercados y oportunidades de negocio
3. Mejorar la imagen de la empresa y la confianza de sus clientes
4. Optimizar los recursos y materiales
5. Innovar en tecnología, productos y procesos
6. Reducir los costes asociados a la producción
7. Mejorar la colaboración entre empresas, ya que los residuos de una podrían convertirse en los recursos de otra
8. Crear empleo y mejorar las habilidades laborales
9. Reducir la dependencia económica y de recursos



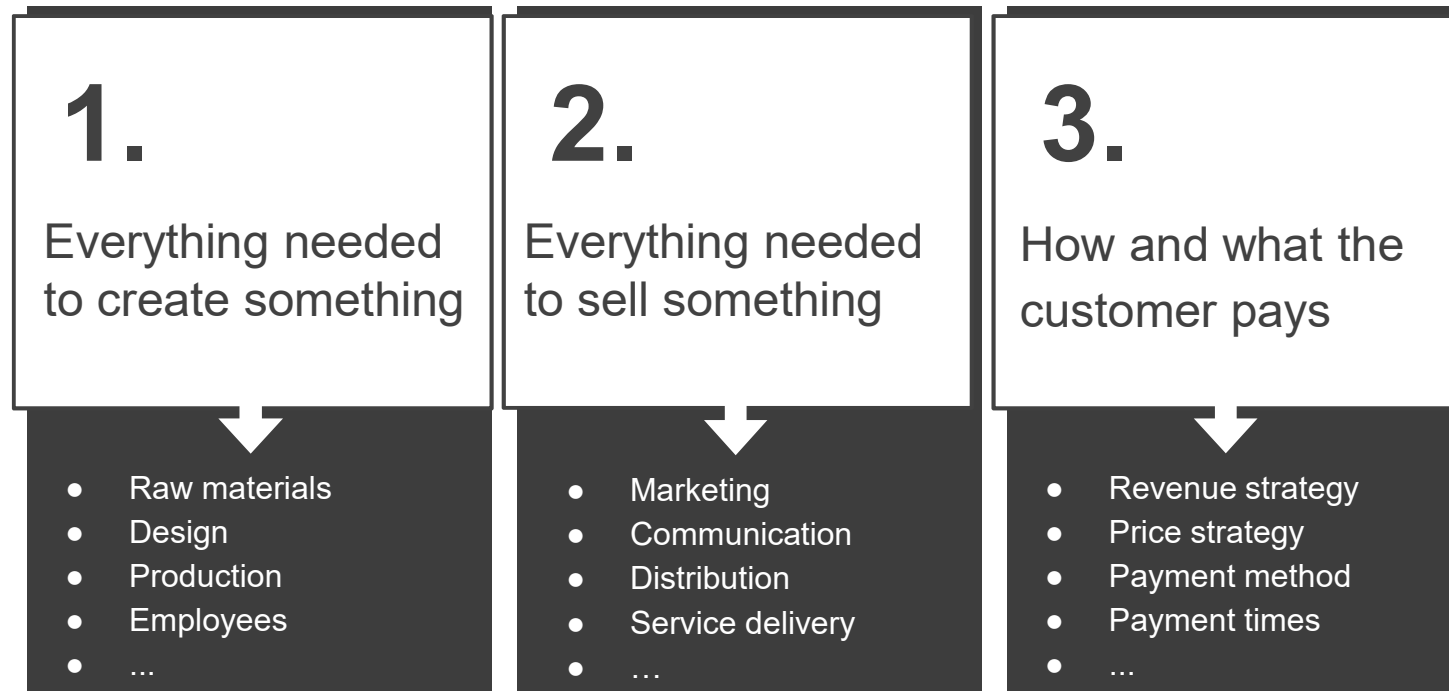
What is a business model?

- ★ A business model describes the rationale of how an organization creates, delivers, and captures value.

What is a business model?



What is a business model?



Circular Economy Model - What has improved?

- Circular business models are special in the sense that **they seek to create value in places that are usually not very interesting** for companies operating in the traditional linear production paradigm.
- In this model **every part of a product is considered a precious resource** that should be carefully managed from start to finish.



<https://www.anthesisgroup.com/circular-economy>

Circular Economy Model - What has improved?

- ★ Reduced raw materials demand
- ★ Raw materials used longer
- ★ Reduced production necessities from scratch
- ★ Creating new value
- ★ Better management of resources
- ★ Reduction of waste / waste and costs
- ★ Performance / efficiency improvement
- ★ Reduction of environmental impact



<https://www.anthesisgroup.com/circular-economy>

NUEVOS MODELOS DE NEGOCIO DE LA ECONOMÍA CIRCULAR



Suministro de recursos totalmente renovables, reciclables o biodegradables para sistemas circulares de producción y consumo

Obtener energía y/o recursos útiles a partir de residuos o productos al final de su vida útil

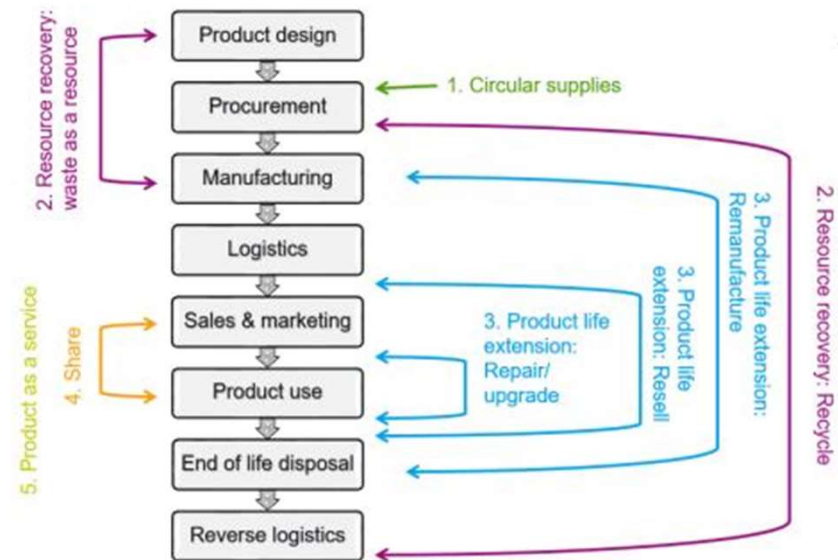
Aumentar la vida útil de un material mediante reparación, actualización, remanufactura o re-comercialización

Compartir el empleo, acceso o propiedad de distintos productos para que tengan un uso más intensivo

Utilizar productos a través de alquiler o pago por uso, en lugar de la compra

Business Models in the Circular Economy

1. Circular Supplier
2. Resources recovery
3. Product life extension
4. Shared platform
5. Product "as a service"



Business Models in the Circular Economy

Circular Supplier:

Gradual elimination of scarce raw materials and use of renewable, recyclable or biodegradable resources.

(Especially suitable for companies that use scarce resources or have an important environmental footprint)

Business Models in the Circular Economy

Resources recovery:

Reuse and recycling of resources leaving the end of the product life cycle and re-inserting them into a new life cycle, using innovative technologies.

(Ex. transformation of food waste into renewable biogas that generate electricity)

Business Models in the Circular Economy

Product life extension:

Extending the lifecycle of products and assets by repairing, upgrading, remanufacturing or remarketing products.

Business Models in the Circular Economy

Sharing Platform

Encourages collaboration among product users, whether individuals or organizations. The offered platform facilitates the sharing of overcapacity or underutilization thus increasing productivity.

Business Models in the Circular Economy

Product “as a service”

Providing products through lease or pay-for-use arrangements. In this business model, the company has to ensure durability and upgradability.

MODELO ReSOLVE

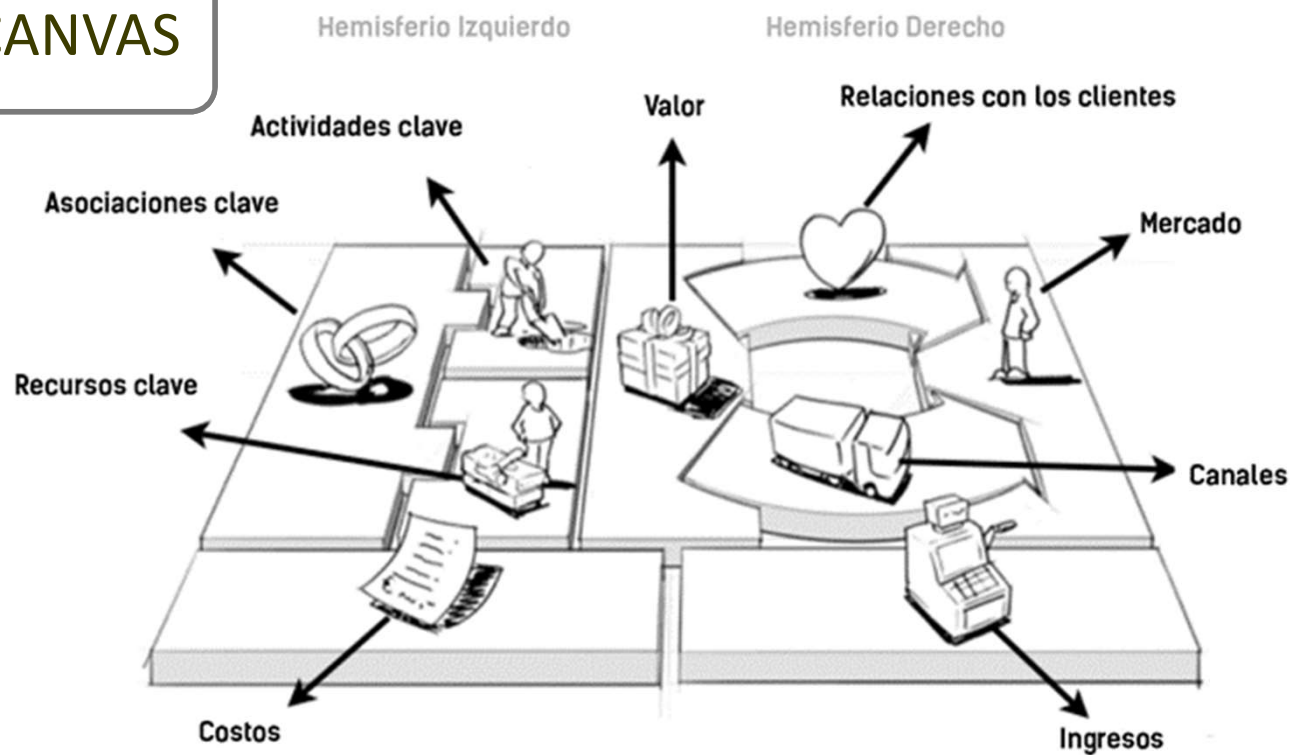
El marco **ReSOLVE** ofrece a empresas y países una herramienta para generar estrategias circulares e iniciativas de crecimiento.



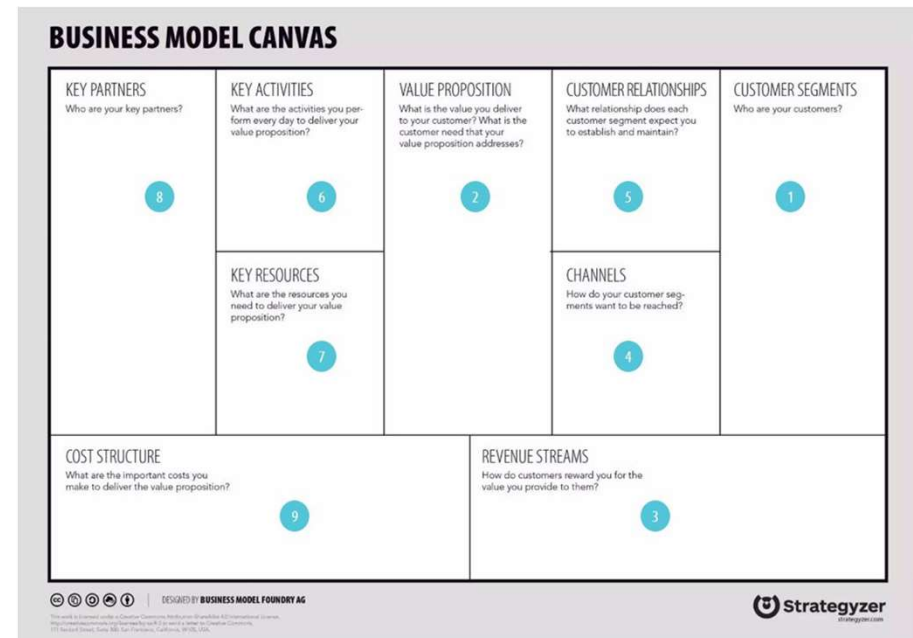
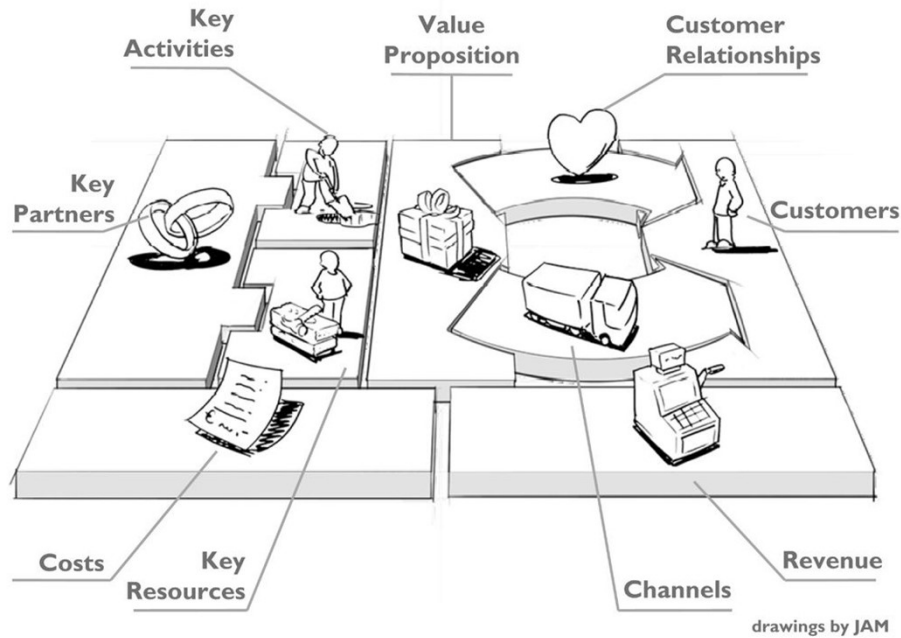
	REGENERATE <i>(Regenerar)</i>	<ul style="list-style-type: none"> • Cambio a energía y materiales renovables • Recuperar, retener y restablecer la salud de los ecosistemas • Devolver los recursos biológicos recuperados a la biosfera
	SHARE <i>(Compartir)</i>	<ul style="list-style-type: none"> • Compartir activos (p. ej. automóviles, habitaciones, electrodomésticos) • Reutilización/segunda mano • Prolongar la vida a través del mantenimiento, diseño para durabilidad, capacidad de actualización, etc.
	OPTIMISE <i>(Optimizar)</i>	<ul style="list-style-type: none"> • Aumentar del rendimiento/eficiencia del producto • Eliminar residuos en la producción y la cadena de suministro • Uso de <i>big data</i>, automatización, sensorización y operación remota
	LOOP <i>(Bucle)</i>	<ul style="list-style-type: none"> • Remanufacturar productos o componentes • Reciclar materiales • Digerir anaeróbicamente • Extraer productos bioquímicos de los residuos orgánicos
	VIRTUALISE <i>(Virtualizar)</i>	<ul style="list-style-type: none"> • Desmaterializar directamente (p. ej. libros, CDs, DVDs) • Desmaterializar indirectamente (p. ej. compra online)
	EXCHANGE <i>(Intercambio)</i>	<ul style="list-style-type: none"> • Reemplazar viejos materiales con materiales avanzados • Aplicar nuevas tecnologías (p. ej. impresión 3D) • Escoger nuevos productos/servicios (p. ej. transporte multimodal)

METODOLOGÍA - ANÁLISIS

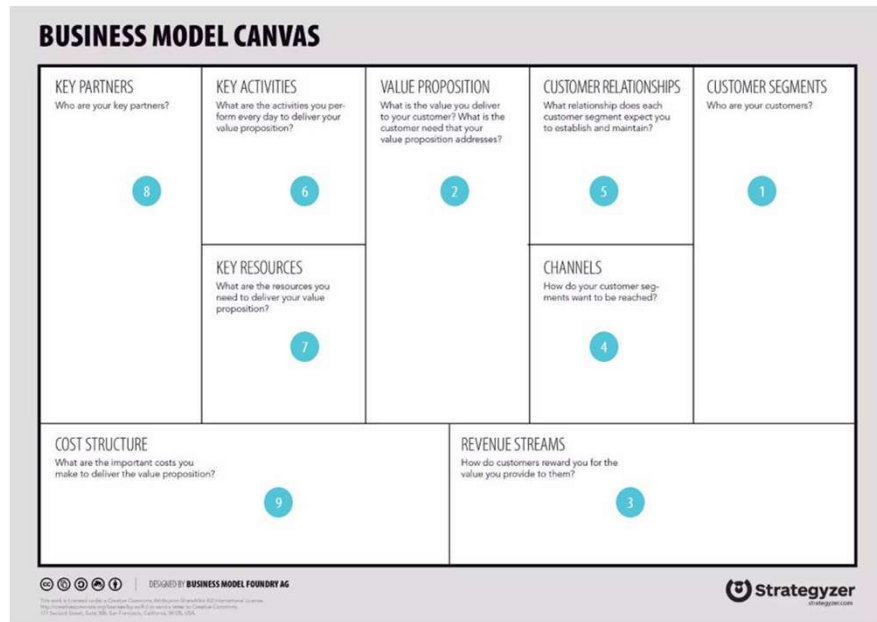
Modelo CANVAS



Business Model Canvas



Business Model Canvas



1. CUSTOMER SEGMENT

Identify who are the most important customers and users we address to and for whom we create value.

2. VALUE PROPOSITION

What value do we offer to the customer and to the user; what problem or unmet need, solves our solution.

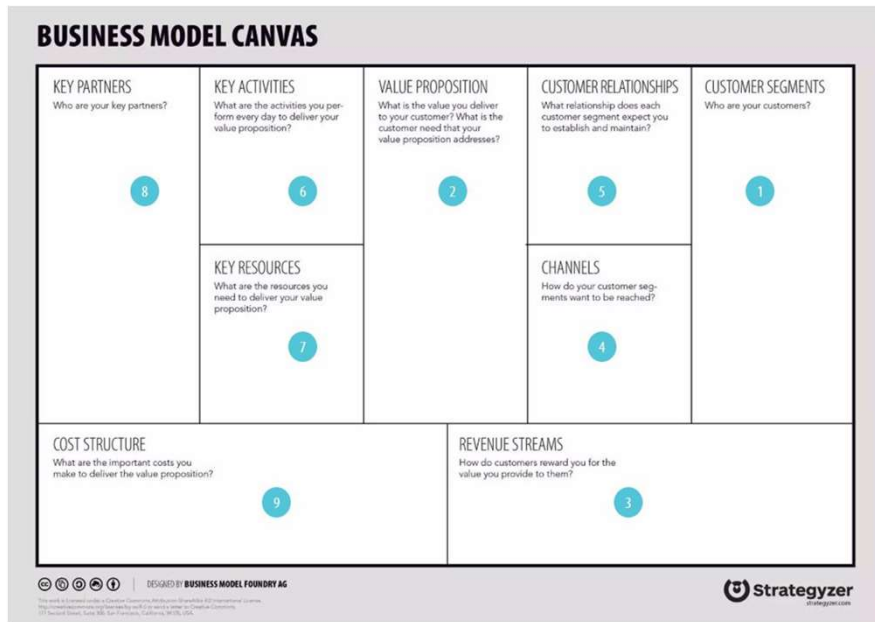
3. REVENUE STREAMS

For what value our customers are willing to pay, how they are willing to pay and how much.

4. CHANNELS

Through which channels we can reach our customers, which ones work best and which ones are the most efficient.

Business Model Canvas



5. **CUSTOMER RELATIONSHIP**

What kind of relationship our customers expect of entertain with us and which of these is the most efficient.

6. **KEY ACTIVITIES**

What key activities are needed to get the value proposition that we have set ourselves to propose to the client.

7. **KEY RESOURCES**

What resources are needed for our value proposition (physical, financial, human resources, etc ...)

8. **KEY PARTNERS**

What are our key partners, such as resources and activities we need to get from them.

9. **COST STRUCTURE**

What are the main costs that our model requires of business; which key resources / assets are the most expensive.

Revenue Models examples

Subscription

Pay-per-use

License

Single purchases

Advertising

Franchising

Auction

Crowdfunding

Commission (% payments)

Data sales



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GRÀCIES

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