

# MOOC ENVIRONMENTAL IMPACTS OF DIGITAL TECHNOLOGIES

## 4.1 Connected objects... and you?

### Auteurs :

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### Pour démarrer : tecno-personality test

Capsule slide	Related text
<p data-bbox="176 654 659 691"><b>Connected objects and you...</b></p> <p data-bbox="176 743 961 967">With the arrival of 5G, it is the promise of the Internet of Things that makes its way into our daily lives. Thanks to the stability of the connection, the real-time transmission of data and the processing capacity of new networks, new services based on connected objects are emerging. Some already exist, others still need to be invented...</p> <p data-bbox="176 1000 919 1068">Test your market knowledge before asking yourself about the usefulness of these connected objects.</p> <p data-bbox="201 1138 491 1166"><b>Step 1: Real or imaginary?</b></p> <p data-bbox="201 1252 445 1279"><b>Step 2: Useful or not?</b></p>	<p data-bbox="1283 646 1654 673"><b>Connected objects and you...</b></p> <p data-bbox="1283 708 2007 911">With the arrival of 5G, it is the promise of the Internet of Things that makes its way into our daily lives. Thanks to the stability of the connection, the real-time transmission of data and the processing capacity of new networks, new services based on connected objects are emerging. Some already exist, others still need to be invented...</p> <p data-bbox="1283 943 1997 1008">Test your market knowledge before asking yourself about the usefulness of these connected objects.</p> <p data-bbox="1283 1040 1612 1068"><b>Step 1: Real or imaginary?</b></p> <p data-bbox="1283 1081 1560 1109"><b>Step 2: Useful or not?</b></p>

Capsule slide	Related text
<p data-bbox="184 134 247 159">Step 1</p> <h3 data-bbox="170 220 436 250">Real or imaginary?</h3> <p data-bbox="170 313 1003 418">Let's start testing your market knowledge. We will offer you a list of connected objects. For each device, choose if in your opinion it already exists or it remains to be invented!</p>	<h3 data-bbox="1283 126 1608 155">Step 1. Real or imaginary?</h3> <p data-bbox="1283 196 1986 326">Let's start testing your market knowledge. We will offer you a list of connected objects. For each device , choose if in your opinion it already exists or it remains to be invented!</p> <p data-bbox="1283 444 1451 474"><b>Yes, it exists!</b></p>
<p data-bbox="184 521 302 545">Option 1 / 8</p> <h3 data-bbox="170 599 716 628">The Wi-Fi-intelligent water detector</h3> <p data-bbox="170 678 1066 748">It's simple! You put me in your house and if you are not there, in case of a leak, you will be notified immediately! You can go out peacefully.</p>	<h3 data-bbox="1283 509 1423 539">Option 1 / 8</h3> <h4 data-bbox="1283 570 1745 599">The Wi-Fi-intelligent water detector</h4> <p data-bbox="1283 643 1976 740">It's simple! You put me in your house and if you are not there, in case of a leak, you will be notified immediately! You can go out peacefully</p> <p data-bbox="1283 816 1451 846"><b>Yes, it exists!</b></p>
<p data-bbox="184 891 302 915">Option 2 / 8</p> <h3 data-bbox="170 969 527 998">Indoor air quality sensor</h3> <p data-bbox="170 1049 1045 1151">This device will tell you if there is too much humidity, too much heat, too much CO2 in the air or even too much noise! The air will no longer be secret for you!</p>	<h3 data-bbox="1283 881 1339 911">2 / 8</h3> <h4 data-bbox="1283 941 1591 971">Indoor air quality sensor</h4> <p data-bbox="1283 1037 1986 1140">This device will tell you if there is too much humidity, too much heat, too much CO2 in the air or even too much noise! The air will no longer be secret for you!</p> <p data-bbox="1283 1183 1451 1213"><b>Yes, it exists!</b></p>

Capsule slide	Related text
<p>Option 3 / 8</p> <p><b>The connected mattress</b></p> <p>With its multiple sensors, you can track and analyse your sleep and even your heart rate!</p>	<p><b>3 / 8</b></p> <p><b>The connected mattress</b></p> <p>With its multiple sensors, you can track and analyse your sleep and even your heart rate!</p> <p><b>Yes, it exists!</b></p>
<p>Option 4 / 8</p> <p><b>Connected mirror</b></p> <p>Oh my mirror, tell me who is the most beautiful... or how to become one! Thanks to the monitoring of your skin's hydration and melanin, we will help you keep your skin healthy!</p>	<p><b>4 / 8</b></p> <p><b>Connected mirror</b></p> <p>Oh my mirror, tell me who is the most beautiful... or how to become one! Thanks to the monitoring of your skin's hydration and melanin, we will help you keep your skin healthy!</p> <p><b>Yes, it exists!</b></p>
<p>Option 5 / 8</p> <p><b>The connected fork</b></p> <p>Are you eating too fast? This must-have fork will tell you!</p>	<p><b>5 / 8</b></p> <p><b>The connected fork</b></p> <p>Are you eating too fast? This must-have fork will tell you!</p> <p><b>Yes, it exists!</b></p>

Capsule slide	Related text
<p>Option 6 / 8</p> <p><b>The children's bracelet connected</b></p> <p>Wherever he is, you'll know!</p>	<p><b>6 / 8</b></p> <p><b>The children's bracelet connected</b></p> <p>Wherever he is, you'll know!</p> <p><b>Yes, it exists!</b></p>
<p>Option 7 / 8</p> <p><b>Connected Ice Cube</b></p> <p>Do your customers have their empty glass? With this ice cube, you'll know it's empty without moving in the room!</p>	<p><b>7 / 8</b></p> <p><b>Connected Ice Cube</b></p> <p>Do your customers have no drink left? With this ice cube, you'll know it's empty without moving in the room!</p> <p><b>Yes, it exists!</b></p>
<p>Option 8 / 8</p> <p><b>The connected swimsuit</b></p> <p>This swimsuit will send you an alert on your phone to tell you when to put back sunscreen!</p>	<p><b>8 / 8</b></p> <p><b>The connected swimsuit</b></p> <p>This swimsuit will send you an alert on your phone to tell you when to put back sunscreen!</p> <p><b>Yes, it exists!</b></p>

You're Techno-extralucide!	You're Techno-lucid!	You're Techno... Uncertain!	Um, you're a little Techno-naive, right?
<p><i>(if the number of answers: "yes, it exists" = 8 times)</i></p> <p>Well done! You're Techno-extra-lucide! Or you just sniffed out the trap ;-)!  You did not get caught because indeed <b>all these objects already exist!</b> And again, you'll see later that the list could still be long!</p>	<p><i>(if the number of answers: "yes, it exists" = 6 or 7 times)</i></p> <p>Not bad at all, but there are obviously items that you would not like to see exist. In fact, none of the objects in this list have been invented. <b>It's crazy, but they all exist!</b> We tried to invent it, but it's not that easy! We wanted to imagine the connected chair... missed, already done, the connected door handle, the same, the connected bottle opener also exists!</p>	<p><i>(if the number of answers: "yes, it exists" = 4 or 5 times)</i></p> <p>Obviously you think that some objects exist, but certainly that others do not... <b>End of suspense, all already exist!</b> We tried to invent it, but it's not that easy! We wanted to imagine the connected chair... missed, already done, the connected door handle, the same, the connected bottle opener, also exists!</p>	<p><i>(if the number of answers: "yes, it exists" = less than or equal to 3)</i></p> <p>Your score is far from the account because in reality none of the objects in this list have been invented. <b>It's crazy, but they all exist!</b> We tried to invent it, but it's not that easy! We wanted to imagine the connected chair... missed, already done, the connected door handle, the same, the connected bottle opener , also exists!</p>

**Common feedback:**

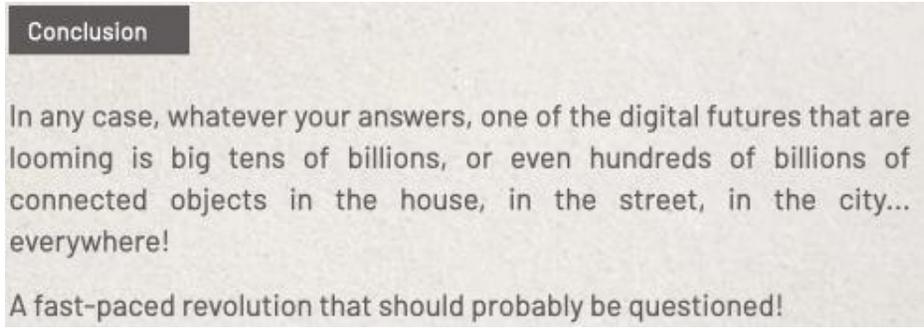
The growth in the number of connected objects is exponential: from 1 billion in 2010 to 19 billion today and perhaps 48 billion in 2025, roughly 50 times more in 15 years! (source [Rapport de l'étude - Empreinte environnementale du numérique mondial, Green IT, Frédéric Bordage, 09/2019](#)).

Capsule slide	Related text
<p><b>Step 2</b></p> <p><b>Useful? It's up to you to decide!</b></p> <p>Here we go: step 2!</p> <p>All the objects that have been presented to you previously exist! But what do you think about these other things connected with a great smartphone app?</p> <p>What's your opinion : A must-have ? Why not? Or outright to avoid...</p>	<p><b>Useful? It's up to you to decide!</b></p> <p>Here we go: step 2! All the objects that have been presented to you previously exist! But what do you think about these other things connected with a great smartphone app? What's your opinion : A must-have ? Why not? Or outright to avoid...</p>
<p><b>Option 1 / 12</b></p> <p><b>The indoor connected planter</b></p> <p>It grows your plants alone! With its pot connected to your smartphone, you are concocted a maintenance program adapted to the plant, remote monitoring and in addition the pot moves alone thanks to wheels to look for light.</p>	<p><b>1 / 12</b></p> <p><b>The indoor connected planter</b></p> <p>It grows your plants alone! With its pot connected to your smartphone, you are concocted a maintenance program adapted to the plant, remote monitoring and in addition the pot moves alone thanks to wheels to look for light.</p> <ul style="list-style-type: none"> <li>• A must-have!</li> <li>• Why not...</li> <li>• To avoid!</li> </ul>
<p><b>Option 2 / 12</b></p> <p><b>The connected chat litter</b></p> <p>Monitor your animal's health with urinary and weight analysis that allows you to prevent disease!</p>	<p><b>2 / 12</b></p> <p><b>The connected chat litter</b></p> <p>Monitor your animal's health with urinary and weight analysis that allows you to prevent disease!</p>

Capsule slide	Related text
<p>Option 3 / 12</p> <p><b>The connected Meditation Headband</b></p> <p>Thanks to brain activity voting analysis, it will help you soothe yourself through adapted programs</p>	<p><b>3 / 12</b></p> <p><b>The connected Meditation Headband</b></p> <p>Thanks to brain activity voting analysis, it will help you soothe yourself through adapted programs.</p>
<p>Option 4 / 12</p> <p><b>The connected sommelier</b></p> <p>Like a thermometer, you dip it in your glass and it measures the parameters of your wine (tannin, power, vivacity), you can then share and compare your results with other wines.</p>	<p><b>4 / 12</b></p> <p><b>The connected sommelier</b></p> <p>Like a thermometer, you dip it in your glass and it measures the parameters of your wine (tannin, power, vivacity), you can then share and compare your results with other wines.</p>
<p>Option 5 / 12</p> <p><b>The smart video doorman</b></p> <p>It allows you to speak with the person at the door via a monitor but above all to capture the image via video of each person who comes to see you at night or during the day.... Rainproof, dustproof and infrared mode included!</p>	<p><b>5 / 12</b></p> <p><b>The smart video doorman</b></p> <p>It allows you to speak with the person at the door via a monitor but above all to capture the image via video of each person who comes to see you at night or during the day.... Rainproof, dustproof and infrared mode included!</p>
<p>Option 6 / 12</p> <p><b>The connected speaker</b></p> <p>This speaker allows you to deploy your music easily from your phone. Compatible with your voice, it allows you to communicate with a virtual assistant.</p>	<p><b>6 / 12</b></p> <p><b>The connected speaker</b></p> <p>This speaker allows you to deploy your music easily from your phone. Compatible with your voice, it allows you to communicate with a virtual assistant.</p>

Capsule slide	Related text
<p>Option 7 / 12</p> <p><b>The smart siren to protect yourself from burglaries</b></p> <p>It detects intruders in your house and makes them run away!</p>	<p><b>7 / 12</b>  <b>The smart siren to protect yourself from burglaries</b></p> <p>It detects intruders in your house and makes them run away!</p>
<p>Option 8 / 12</p> <p><b>Controlled Bike Lighting</b></p> <p>Braking, position, distress light, flashing with handlebar control and connected to your geolocation, it protects you even by alerting your relatives in the event of an accident!</p>	<p><b>8 / 12</b>  <b>Controlled Bike Lighting</b></p> <p>Braking, position, distress light, flashing with handlebar control and connected to your geolocation, it protects you even by alerting your relatives in the event of an accident!</p>
<p>Option 9 / 12</p> <p><b>The insoles connected for sport</b></p> <p>Capturing all the data of your race, the app will offer you an adapted sports program.</p>	<p><b>9 / 12</b>  <b>The insoles connected for sport</b></p> <p>Capturing all the data of your race, the app will offer you an adapted sports program.</p>
<p>Option 10 / 12</p> <p><b>The connected pellet that monitors your back posture</b></p> <p>Apply it to your column and, as soon as you are no longer straight, it will vibrate or alert you via the app!</p>	<p><b>10 / 12</b>  <b>The connected pellet that monitors your back posture</b></p> <p>Apply it to your column and, as soon as you are no longer straight, it will vibrate or alert you via the app!</p>

Capsule slide		Related text	
<p>Option 11 / 12</p> <p><b>Smart health tracking ring</b></p> <p>It tracks your physical activity, can measure your pulse... and even, since we are there... read your emails, your text messages and make phone calls...</p>		<p><b>11 / 12</b></p> <p><b>Smart health tracking ring</b></p> <p>It tracks your physical activity, can measure your pulse... and even, since we are there... read your emails, your text messages and make phone calls...</p>	
<p>Option 12 / 12</p> <p><b>The smart odour diffuser</b></p> <p>With its app, you calibrate the perfume, trigger the device, etc.</p>		<p><b>12 / 12</b></p> <p><b>The smart odour diffuser</b></p> <p>With its app, you calibrate the perfume, trigger the device, etc.</p>	
<p><b>Feedback 1 :</b></p> <p><b>You're rather Techno-addict!</b></p> <p><i>(if the number of answers: "indispensable" is greater than or equal to 7)</i></p> <p>Do you think all these items are unavoidable?</p>	<p><b>Feedback 2 :</b></p> <p><b>You're more like Techno-baba!</b></p> <p><i>if the number of answers :</i></p> <ul style="list-style-type: none"> <li>• "indispensable" + "why not" is greater than or equal to 7</li> <li>• AND "to avoid" is less than 7</li> </ul> <p>In any case, you would probably be tempted by certain objects.</p>	<p><b>Feedback 3 :</b></p> <p><b>You're rather Techno... fluctuating like it!</b></p> <p><i>if the number of answers :</i></p> <ul style="list-style-type: none"> <li>• "indispensable" + "why not" is less than 7</li> <li>• AND "to avoid" is less than 7</li> </ul> <p>Not really sharp opinions and some of the objects are rather attractive there or others do not attract you at all.</p>	<p><b>Feedback 4 :</b></p> <p><b>You're rather Techno-critical.</b></p> <p><i>(if the number of answers: "to avoid" is greater than or equal to 7)</i></p> <p>You seem not to be very convinced by all these items that are presented to us in the stores.</p>
<p><b>Feedback commun :</b></p>			

Capsule slide	Related text
<p>Descriptions in the form of marketing arguments focus the presentation of objects as a response to our basic needs: for example, the need to feel safe, to take care of one's health, to feel part of a community, to be esteemed or to flourish. A whole field of advertising to make them indispensable to us and push us to buy them. But did we really miss it?</p> <p>It is up to everyone to make these choices without losing sight that each object has multiple impacts in its different phases of life and that their exponential multiplication is not without consequence. Not to mention the obsolescence... from gadget to indispensable object there is only one step to take...or not!</p>	
 <p><b>Conclusion</b></p> <p>In any case, whatever your answers, one of the digital futures that are looming is big tens of billions, or even hundreds of billions of connected objects in the house, in the street, in the city... everywhere!</p> <p>A fast-paced revolution that should probably be questioned!</p>	<p><b>Conclusion</b></p> <p>In any case, whatever your answers, one of the digital futures that are looming is big tens of billions, or even hundreds of billions of connected objects in the house, in the street, in the city... everywhere!</p> <p>A fast-paced revolution that should probably be questioned!</p>

## Conclusion

Connected objects are emblematic of the societal issues raised by our relationship with the digital world. What for? For whom? How can they be used? Within what limits? At what price? At what social and environmental cost? The deployment of all-digital technology and these objects implies the deployment of suitable and important infrastructures at all scales. And the recent debates, controversies and questions surrounding 5G are a revealer of the choices (or lack thereof) of society that are already deciding what our societies will be like tomorrow.

In the following section we propose a reflection and analysis of these civilisational issues. To get to the heart of the matter, you can watch the [Video "Our relationship to digital"](#).

## Crédits :

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<p><b>Pedagogical team :</b></p> <ul style="list-style-type: none"><li>● Laurence Farhi, Tatiana Khomenko, Inria Learning Lab</li><li>● Sophie de Quatrebarbes, S24B for Class'Code</li></ul>	<p>With the support of the Minister of National Education, Youth and Sport and UNIT.</p>  <p>UNIT MINISTÈRE DE L'ÉDUCATION NATIONALE, DE LA JEUNESSE ET DES SPORTS <i>Liberté Égalité Fraternité</i></p>
<p><b>Graphismes :</b></p> <ul style="list-style-type: none"><li>● Illustrations : Mikaël Cixous, 4 minutes 34</li><li>● Photographies of Guillaume Clémencin : Nicolas Ledu</li></ul>	
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