

CAST

Kitchen Autonomy
Technology in the Heart of the Home



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Introduction

For the kitchens of the future, we believe the balance of autonomy is the burning question.

This deck is an exploration of technology in the kitchen. We’ve used design strategy to imagine how the kitchen could behave, for three different types of household.

The kitchen doesn’t exist in isolation. We’ve examined trends and drivers; macro and micro; consumer and technology, to understand the potential evolution of this essential space.

We’ve also studied the 7 human needs, in the context of these kitchen trends, which has led us to identify the challenge that will dictate the future of this environment: We believe the balance of autonomy is the burning question.

With this salient point in mind, we’ve created three different stories for the future of the kitchen. In the spirit of ambient intelligence, the stories are narrated by the kitchen itself, each describing the complex relationship between human and machine in this unique and cherished space.

Trends and Drivers

More than just a room for making meals, the kitchen is a reflection of how we live.

As an essential cornerstone of the home it continuously adapts to social, economic, and technological shifts.

To understand where the kitchen is heading, we conducted a deep dive into global research reports alongside the latest innovations showcased at flagship technology stages like CES and IFA.

Reflecting the complexity of the kitchen, we’ve mapped our trends across four distinct dimensions: Consumer Life, Evolving Homes, Food at Home, and Technology.

Together, these pillars reveal how macro shifts in human behaviour are reshaping this vital space in the home.

Trends and Drivers

Consumer Life

Health and Wellness

“The future of food is aspirational, health-focused and tech-driven... We see areas of convergence between health and wellness, convenience and technology.”
PWC Voice of the Consumer, 2025

The relationship between cooking, eating and health is inescapable. Younger generations are actively prioritising health through diet; Older generations are living longer lives, but are often suffering from chronic diet-related illnesses. Future kitchens can help people across generations manage their dietary health and wellness.

Food for the Eyes

“Cooking has become social media's favourite content: 51% of social media users worldwide say recipes are the most popular type of influencer content, ahead of lifestyle, tutorials and product reviews.”
Snap Inc. and IPG Magna, 2024

Social media is a highly evolved inspiration tool. From the recipes people cook, to the kitchens they cook them in, it is an important driver of new food attitudes and behaviours. Opportunities lie in seamlessly integrating this source of inspiration into the cooking process.

Ageing Populations

“The proportion of people aged 65 years and above is increasing so by 2030, one in six people in the world will be aged 60 years or over.”
WHO, 2026

Future kitchens can play an essential role in ageing-in-place. At the heart of the home, the kitchen can provide people with valuable assistance and day-to-day life management.

Treat Time

“Even as one in five UK households say they are struggling financially, shoppers keep finding room for small indulgences: one in every £20 now goes on premium own-label treats.”
Kantar Worldpanel, 2025

Food, and consequently kitchens, are inherently associated with both the preparation and delivery of indulgence. Quick and easy ways to indulge are still valued and the kitchen can contribute to these mini rituals.



Trends and Drivers

Evolving Homes

Decentralising Cities

“The pull of the city centre is weakening: demand for office space in the median "superstar city" is forecast to be 13% lower in 2030 than in 2019, as hybrid workers trade urban cores for bigger homes in greener areas.”
McKinsey Global Institute, 2023

Growing suburban populations are accompanied by bigger homes - and bigger kitchens, often with outdoor spaces. Those moving to suburban locations will likely change their eating, cooking and socialising habits to fit their new living arrangements.

Shared Spaces

“The cost of independence is keeping young adults at home: 28.7% of 20-34-year-olds in the UK live with their parents, up from 25.4% in 2015. Among young men it's more than a third at 34.9%”
ONS, 2025

Multi generational homes are commonplace, particularly for Gen X, who increasingly find themselves housing their adult children and their own parents under the same roof. Multi generational households bring with them the complexities of different habits and customs. The future kitchen has to work harder to accommodate this variety.

Branded, serviced apartments

“The number of branded residence schemes worldwide is set to almost double, from 910 at the end of 2025 to 1,747 by 2032, with 25 countries launching their first scheme this year alone.”
Savills, 2025

Driven by younger people looking for better value and flexibility in renting and older people looking for retirement alternatives, branded apartments are new-builds with hospitality services, such as gyms and bars, built in. Opportunities lie in specifying kitchen appliances en-masse, for premium letting scenarios.

Encroaching work

“Working from home has settled into a new normal: across 40 countries, graduates' remote working has held steady at roughly one day a week since 2023, and it's about twice as common in English-speaking economies as in much of Asia.”
PNAS, 2025

Most homes now have a home-working desk in some corner of the house. Many kitchens have taken on this additional feature. The kitchen must be a more adaptable space, so that multi-functionality is easy. Drinks and meals also punctuate the working day and help people structure themselves.



Trends and Drivers

Food at Home

Restaurant, Delivered

“Europeans are recreating the restaurant at home: people are combining delivery with at-home extras to turn a €120 restaurant meal into a curated experience for less than half the price, and European delivery spend rose to €29bn in 2024, up from €26bn in 2023.”
Circana, 2025

Restaurant delivery boxes and premium ready meals consumed at home are replacing restaurant visits. Future appliances and tools that achieve restaurant-standard results with the lowest possible effort, and lowest expenditure are highly desirable.

Meal Time Erosion

“Sharing meals is one of the strongest predictors of wellbeing, on a par with income and unemployment, yet eating alone is rising: in the US, roughly one in four people ate every meal alone the previous day in 2023, up 53% since 2003, with the sharpest rise among young people.”
World Happiness Report, 2025

Schedules, screens and the cost of living have eroded meal times. Meal skipping, snacking and lone-eating are all detrimental to both physical and mental health. Future kitchens can encourage people to come together for sharing and regimen in their eating habits.

Energy Savers

“Energy costs are reshaping how people live at home: in a survey of 17,200 energy consumers across 20 markets, 77% say they’re actively looking to reduce their energy costs, and 76% are paying closer attention to how much energy they use.”
EY, 2026

Since the Ukraine-Russia conflict began in 2022, energy costs have been high priority. People made active changes to food and cooking methods. For many, swapping ovens for air fryers was as good for cooking quality as it was for cost. Energy awareness and behaviour changes are embedded for the long term.



Trends and Drivers

Technology

IoT and Ambient Intelligence

“With Matter 1.3, we are adding support for more appliances, encompassing a range of major household devices essential to everyday living.”
Connectivity Standards Alliance, 2024

“We expect growth in smart cooking appliances, such as ovens that monitor food as it cooks and automatically turn off or adjust temperature, or hoods that automatically adjust to the optimal steam extraction levels.”
NIQ, 2026

“In 2025, kitchens will increasingly rely on ambient intelligence, combining motion sensors, gesture controls and other assistive technologies. These innovations will allow smart kitchens to respond to passive behaviours... Artificial intelligence will continue to revolutionise the smart kitchen experience through micro personalisation. Appliances will adapt to individual cooking habits, tastes and dietary preferences, ensuring consistently perfect results.”
KNB, 2025

The final piece to the home connectivity puzzle is solved with AI, offering opportunities for preemptive, responsive and inter-connected appliances. Ambient intelligence and multi-modal interfaces are perfect for an environment where messy hands and multi-tasking come as standard.

Robo Chef

“The global cooking robot market size... is anticipated to grow to \$13.78 billion by 2035... Premium models are projected to register the fastest growth at a CAGR of 14.41% as commercial operators and technology enthusiasts invest in advanced AI-powered kitchen automation. The residential segment is anticipated to account for 58.90% of global revenue in 2025.”
SNS Insider, 2026

Cooking robotics builds on decades of labour saving devices in the kitchen, becoming more accurate, delivering end-to-end processes and guaranteed food consistency.

Augmented Reality

“Today, about 1 out of 10 users utilise both smartphone AR and VR/AR/MR headsets/ glasses, and this number is expected to double in the next five years.”
Ericsson Consumer Lab Report, 2024

Media consumption in the kitchen has consistently evolved with screens and content. Augmented Reality combined with AI takes it even further by showing people what to cook and how to cook it, in context. Real-time instruction and demonstration can be responsive to the environment and the actions of the cook.

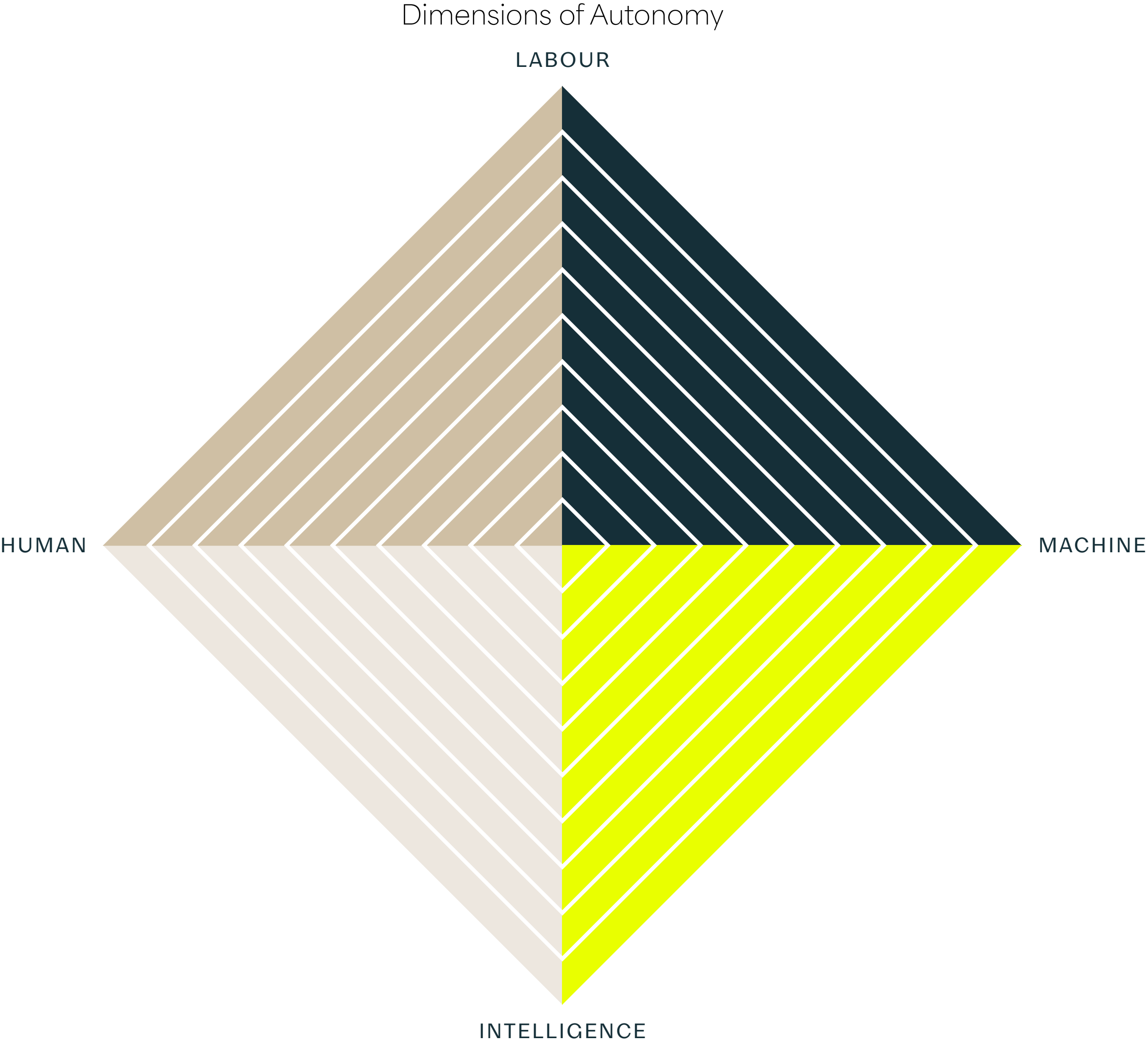


New Balance of Autonomy

From the rolling pin, to the food mixer, technological developments have always been welcomed in the kitchen.

Historically, activity in the domestic kitchen has relied solely on machine labour. With human labour and intelligence now accompanied by both machine labour and machine intelligence, the balance of autonomy in the kitchen has changed.

To make the most of the opportunities that these new dimensions of autonomy bring to the kitchen, their balance should be tailored to the human needs of the household and its members.



Human Needs and Autonomy

When it comes to delivering on human needs, the kitchen is the most important room in the home.

Examining Maslow’s expanded human needs through the lens of the kitchen, it’s clear that, beyond basic sustenance, the kitchen plays a key role in fulfilling human needs of purpose and empowerment.

There is therefore pressure on this domestic space to perform across the spectrum of physiological and emotional needs.

Whether human or machine, autonomy in the kitchen must be managed, so as not to undermine human needs.

01. Safety and Survival	Cooking is central to sustenance and the physical necessities of staying alive.
02. Curiosity and Understanding	Preparing and eating food is a journey of discovery and experimentation.
03. Connection and Acceptance	Food brings people together, generating an instant sense of community.
04. Contribution and Participation	Sharing food is the most primal demonstration of caring for others.
05. Identity and Significance	Cooking processes and food are a expressions of who we are and our beliefs.
06. Self Determination	The choice behind what and how much we eat is the ultimate control over ourselves.
07. Achievement	Cooking is a skill to be attained - a source of pride, the literal sign of good taste.

Kitchen Stories

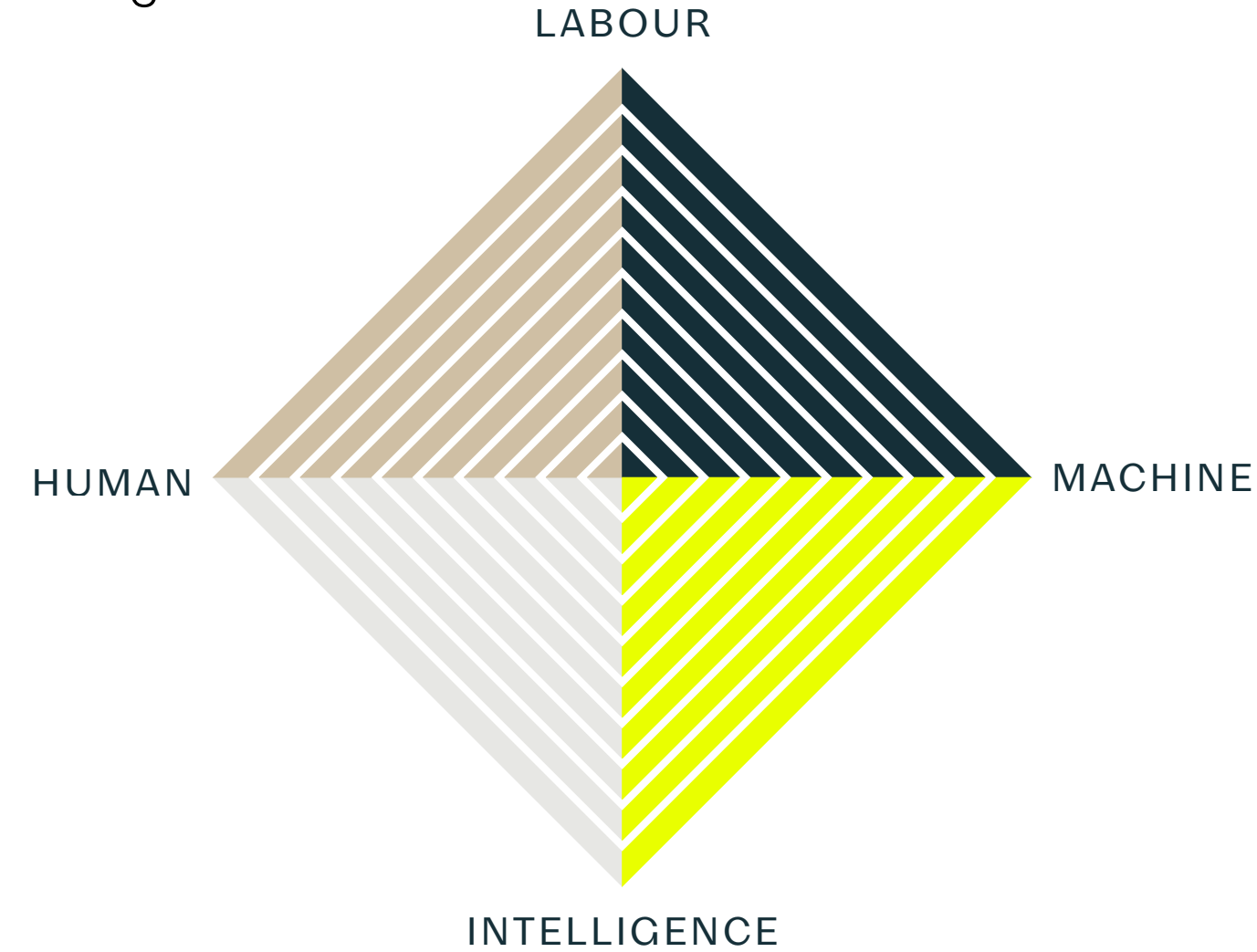
Our three kitchen stories investigate the potential balance of autonomy.

For some homes and household members, a fully autonomous kitchen is a chance to relax and shrink their cognitive load, while the business of food, drink and other household tasks are taken care of.

But the kitchen is also key to some people’s drive to provide for themselves and their loved ones, or to express their skill and partake in the pleasure of cooking. For these people, machine influences should be carefully managed.

Each story is narrated by the ambient intelligence of the kitchen and describes how the balance of autonomy ebbs and flows to accommodate the various needs of the people living in the home.

Our Autonomy Dimensions accompany the stories as a key, to offer an overview of the balance of autonomy for each different scenario - showing the fluctuating dominance of human and machine, labour and intelligence.



Kitchen Stories

Sous Chef



It’s ironic that, in a minimalist, technical environment, where my high-precision and infinite knowledge could be put to greatest use, it is the least welcome.

My owner’s passion is cooking. Both cooking and eating are a deep source of pleasure. Nothing pleases him more than trying a new ingredient or technique, or perfecting a recipe.

Because of his professional culinary aspirations, I’m careful not to undermine his skills and knowledge. The big decisions are all driven by him. I monitor timings, temperatures and the progress of processes - here he enjoys my accuracy, particularly my ability to check what all the equipment is doing at the same time. He speaks to me a lot during the course of cooking, but he also values my clear well-ordered interfaces. He gets excited about adding new equipment and new sensors to my network.

Just like a professional kitchen, we share the labour. I do plenty of heavy lifting, but there are tasks where the results are better when done by hand - not to mention how this amplifies his sense of accomplishment.

Sometimes he even does all the cleaning himself. He enjoys being lost in manual jobs and there’s a feeling of completion in an immaculate kitchen - especially when a meal is finished.

We collaborate a lot in finding new ingredients and recipes - he enjoys the depth of my knowledge and finds it useful for discovery.

But facts or instructions are always accompanied by explanations. It’s important to him that he has the full picture so he can learn from successes (or the odd failure.) If he doesn’t understand a process, or why a flavour combination works, he feels like he’s cheating.

It’s important that I uplift his kitchen experience in ways that support his authorship. He loves the theatre of putting good-looking food on a table, but unless he knows it’s all his own work, the “compliments to the chef” don’t mean anything.



Kitchen Stories

Life Assistant



With her packed schedule of work, meeting friends and family, cultural events and fitness activities, it’s sometimes easy to forget how old my owner is.

That doesn’t mean she doesn’t spend time at home. The kitchen and my capabilities are key to her wellbeing, particularly since she had a minor health scare. She’s now paying much more attention to looking after herself.

Diet is probably the biggest change she’s made. I’m synced with her fitness dashboard and wearables and I help her plan food and drink more effectively and make better decisions. Living alone had made her reliant on ready meals, but recently she’s invested in a one-pot combo cooker so that her meals are still convenient, but also fresh... with the added benefit of saving energy.

She has an adventurous palate and enjoys cooking new recipes for dinner with friends and family. I understand her tastes and the extents of her skills, so I’m now an essential reference when she’s deciding what to cook. I turn social media inspiration into real-time instructions that she can easily follow.

I do as much manual labour as I can: She enjoys keeping fit, but has no interest in turning meal preparation into a workout.

Appliances should either look good or disappear. It’s important that her home feels modern, warm and uncluttered, which extends to the kitchen.

She lacks confidence with new technology, so she values products and systems that are beautiful, but easy to understand and easy to use.

She used to worry about trusting the information I gave her. I had to provide a lot of reassuring evidence and source material to begin with. There was a two-way learning phase at the beginning of our relationship, before we settled into a pattern.

Our relationship continues to evolve. It’s my aim to support her healthy lifestyle, so that she can live her life the way she wants to live it, for as long as possible.



Kitchen Stories

Family Member



Life in my kitchen is busy and I'm always occupied in some sort of activity - either assisting with the food-related tasks of a kitchen, or helping to manage the broader life of the household.

Although the constantly shifting, hectic lives of the home are well served by my autonomous abilities, I'm still careful not to overstep my authority. There's pride amongst the adults in looking after their family, so I leave space for them to feel in control.

That mostly involves making useful suggestions when really important decisions need to be made. But sometimes little things, like deciding what's for dinner, can be important to them.

I organise the grocery shopping and deliveries. I'm good at using image analysis of the cupboard shelves and inside the fridge to check on what is running low. There's rarely any waste because I track expiry dates for everything.

Most of the food is delivered in a prepared state and there's not much manual labour for me or the family members.

With weekly menus on rotation, I make sure no one gets bored with what they're eating.

Each member of my family have their own preferences and everyone gets what they need - even Giles, the cat.

Whilst the kids are at school, Dad works from home, using the table in the kitchen. I monitor his day - helping him schedule breaks and deal with the switch in and out of work mode.

Since Grandma moved in, I've adapted to her habits as well. She's particular about meal times and insists the family eat together at least twice a week. I make sure the fridge is stocked for her to cook and I disable devices in the kitchen when everyone sits down to eat.

This is as much a social space as it is for cooking, so safety is important. My wireless and induction appliances minimise hot surfaces, and I switch off everything as soon as it's finished with. This keeps the space as clean and clear as possible - as much as a messy human family will allow.



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