

good food for the 21st century

a **toolkit** for designing future food experiences



INSTITUTE FOR THE FUTURE

FOOD

FUTURES LAB | iff.org

FOOD FUTURES LAB

IFTF's Food Futures Lab identifies and catalyzes the world-changing innovations that have the potential to reinvent our global food systems. We align the minds, innovations, and resources shaping the future of food with a long-term perspective. The Food Futures Lab challenges assumptions and reveals new opportunities to make a resilient, equitable, and delicious future of food.

INSTITUTE FOR THE FUTURE

Institute for the Future (IFF) is celebrating its 50th anniversary as the world's leading non-profit strategic futures organization. The core of our work is identifying emerging discontinuities that will transform global society and the global marketplace. We provide organizations with insights into business strategy, design process, innovation, and social dilemmas. Our research spans a broad territory of deeply transformative trends, from health and health care to technology, the workplace, and human identity. IFFT strives to comply with fair-use standards and publish only materials in the public domain under the Creative Commons 4.0 International License (CC BY-NC-ND 4.0). IFFT is based in Palo Alto, California.

For more, visit www.iff.org.



Everyone can be a future food designer.

This toolkit will help you become one.
Let it be your guide to designing good
food for the 21st century.

So what does a “good food future” actually mean?

For some, a better future might mean reversing climate change through regenerative agriculture, while for others it might mean the ability to feed a family healthy food on a limited budget. For the food industry, it might be a business model that allows for new innovations. For eaters, it might be a future in which anyone can participate in remaking the food system from the bottom up.

Thinking about the future offers opportunities to rewrite the rules that govern our food system. Food design is a new discipline that allows people throughout the food system to create new food experiences. We are taking food design to the next level, incorporating futures thinking into design choices, grounding them not just in what we see *today* but what we will (and want to) see *tomorrow*.

This toolkit is a guide for creating new food experiences that move beyond product innovation, instead using food as a way to solve the next decade’s challenges and design good food for the 21st century.

STEPS

to design a future food experience

1 | ORIENT to your challenge for the future 2

2 | EXPLORE three zones of innovation 3

3 | REVEAL unexpected possibilities 6

4 | IMMERSE in three preferences for the future 10

5 | PROTOTYPE your future food experience 24

iftf.org/foodexperiences

1

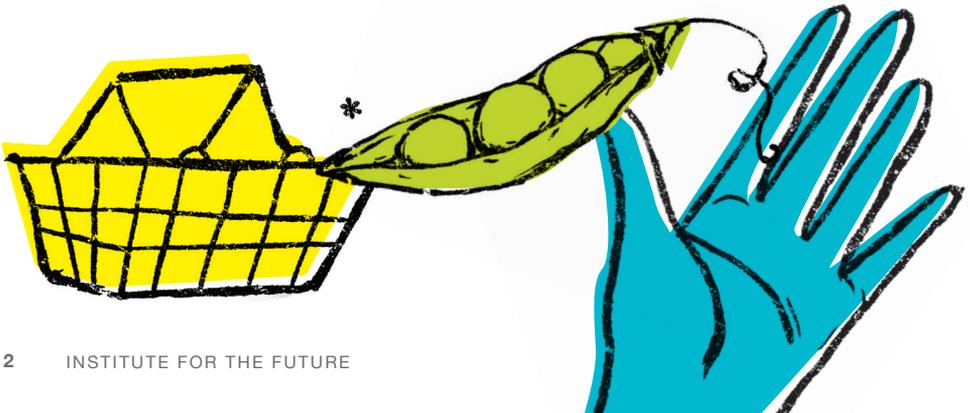
ORIENT

to your challenge for the future

This challenge is the reason *why* you're designing a future food experience. Food can be a starting point for many kinds of change.

Start with a challenge that you're facing today. For example, eliminating food waste in a cafeteria, growing food in vacant urban spaces, or creating a new food line for extreme athletes. Whether you lead an innovation team at a big food company or you're an activist using food to build community, this where you start imagining the future food experiences that will help shape your preferred future.

Write your challenge below:



EXPLORE

three zones of innovation

Food experiences have three things in common: a human engaging with a food in a particular context. Each is a zone of innovation, driving unexpected futures that will emerge as provocations for food design in the coming decade.

With your challenge in mind, read the companion map *Future Food Experiences: Designing Good Food for the 21st Century*. Here you will find 12 provocations about how human, food, and context each present new possibilities for the food experiences of the next decade. The next page provides a brief overview of these forecasts. The full map contains signals of where we see these futures happening today.

TIPS:

- Consider: Which forecasts surprise you? Which ones do you already see emerging in your city or industry?
- Which forecasts inspire you to think about your challenge in a new way?



zones of innovation present new possibilities for the food experiences of the next decade:



human

Humans are complex beings. We're constantly evolving and adapting as we move through life's stages and respond to rapid changes around us. In the next decade, we'll expand the known boundaries of what it means to be human, intervening in our own genetic activity and augmenting our bodies to amplify our perception of the world and connections within it. We'll adopt new approaches to food expression and rewrite our identities—one food experience at a time.



food

Food and food systems are in a period of rapid reinvention, including innovations in animal-free meat, AI-enhanced food, and efforts to preserve indigenous cuisines. We can expect to see a proliferation of approaches to encode resilience across the entire food system—integrating food informatics from farm to fork, adopting ecological mindsets to food production and recipes, shifting resources and skills, and rethinking the role of traditional institutions in community and global food systems change.



context

Context shapes all our food experiences. Even our physiology responds to context: alone or shared, in a loud restaurant or quiet field. Looking across radical shifts emerging around the world, from instability and volatility to automation and unconventional daily rhythms, it's clear that 21st century food experiences will happen in very different contexts from today. We'll create new eating and drinking occasions, new pathways and biozones for sourcing our food, and new strategies for ensuring safe, sovereign food in turbulent times.

12 provocations are forecasts that you can tap into as you design new food experiences:

Programmable Physiology

Toward personalized approaches to nutrition and health

Augmented Sensorium

Toward a neuroscience of evolving sensory perception

Wearable Data

Toward the body as landscape for food information and expression

Food Identities

Toward food experiences that expand human connections

Cognified Food

Toward artificial intelligence for every food designer

Engineered Ecosystems

Toward closed-loop food production systems

Scalable Food Justice

Toward anchor institutions as hubs of food system reform

Regenerative Recipes

Toward meals that cultivate resilient food systems

Food Instability

Toward innovation and improvisation for global food security

Branded Biozones

Toward new models to celebrate food provenance

Automated Restaurants & Retail

Toward automated food service models for on-the-go lifestyles

Remixed Rhythms

Toward food personalized to changing daily schedules

3

REVEAL

unexpected possibilities

Juxtaposition of forecasts pushes us to consider possibilities we wouldn't necessarily consider otherwise.

Remember: a food experience is a human engaging with food in a particular context. By juxtaposing forecasts across all three of these zones, we can begin to imagine *future* food experiences. This will stretch your assumptions about what's possible and is a great way to prime yourself for creative thinking to address your challenge.

Use the companion card deck, *Future Food Experiences: 12 Provocations of Future Possibilities*, to brainstorm unexpected possibilities by combining forecasts from each zone.

TIPS:

- It's ok if these combinations sound a little ridiculous. Resist thinking “that will never happen”—this is a generative exercise intended to expand your thinking.
- Look at the map to remind yourself of the full details and signals for each forecast.



1 | combine provocations

Using the companion card deck, choose one card from each zone of innovation to generate a possible future food experience that could address your challenge.



The cards can be combined in dozens of ways. Start by picking one from each zone at random. Then, experiment with other combinations that intrigue you.

For example, your combination could be:

“A human with **wearable data** shopping for **cognified food** in a world of **remixed rhythms**.”

This is the foundation of many possible future food experiences that could address your challenge. Think about what this would look like in ten years and how that’s different from today.

2 | choose a food experience

Choose one combination you’d like to explore and write it below. You’ll use this for the remainder of the toolkit.

3 | Identify who you're designing for

The human, food, and context forecasts you chose could create many possible future food experiences for many stakeholders, such as farmers, factory workers, or kids. Your job now is to design a specific future food experience related to your challenge for one of these people. This will ground long-range possibilities in human experience and reveal the consequences of today's actions. Choose a person and describe her or him below.

Name: _____

Age (now) _____ | (in 10 years) _____

Location:

Occupation:

What is this person's relationship to your challenge today?

How would their life be different in the future if you solved your challenge?

4 | Describe what's different in the future

Go back to the three forecasts that you chose (from our example: wearable data, cognified food, and remixed rhythms). Use the spaces below to fill in details about how each forecast could relate to your person's life. For example, what kind of data are they collecting about themselves and how? What specific food is involved and how is it produced? How is daily life different in ten years?

TIPS: Look at the signals for each forecast on the Future Food Experiences Map of the Decade for inspiration. Be as specific as possible. In the next step, you will combine these elements to tell a story about a future food experience.

Human

Food

Context

5 | Describe your future food experience

Combine the human, food, and context forecasts to imagine a future food experience that relates to your challenge for your person of choice.

Telling a story about a person in the future will ground your food experience in his or her day-to-day reality and make the future tangible by envisioning what kinds of products, services, and environments people will interact with.

Describe, in detail, a scene about your person. Consider things such as:

- What actions are they taking?
- What information do they collect, share, or receive?
- Imagine what this experience feels like to the person (scary, fun, surprising)?

Meet (your person)

They live in

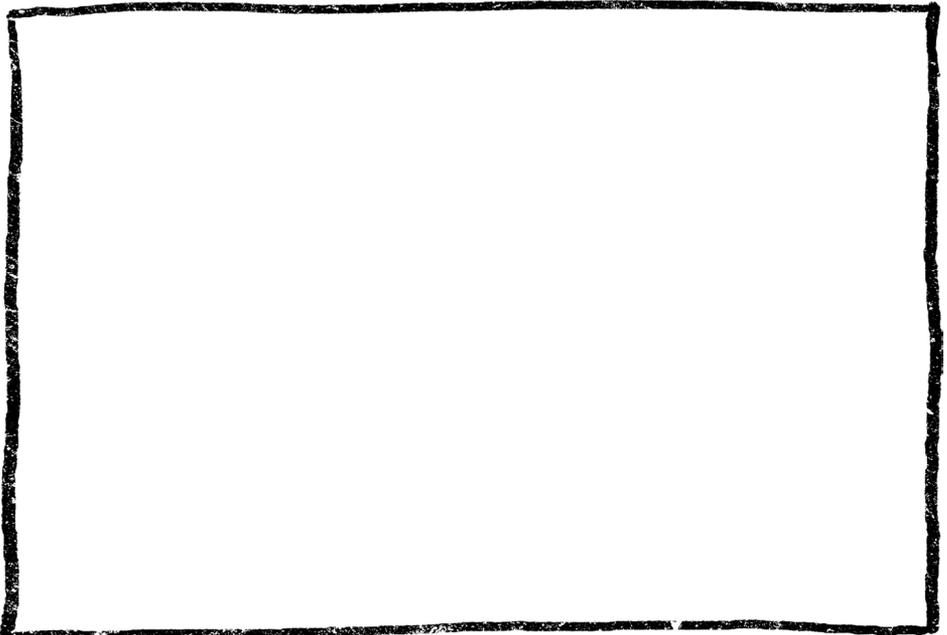
And they spend their days...

They're having a hard time with...

Until one day they encounter
(your future food experience,
leveraging the three forecasts)

and then they are able to...

sketch a picture of this scene



4

IMMERSE

in three preferences for the future
to guide your design choices

A “good” future food experience will mean different things to different people. Our motivations and aspirations will shape the kinds of futures we make. This step will help you take the future food experience you just designed and consider a wider range of values. The goal is to think about how your aspirations and preferences for the future might be different from those of the eaters or farmers or business owners you interact with. Here are three archetypes that serve as “preferences” for which direction your future might take.

UTOPIAN | SPECULATIVE | PRAGMATIC

Each preference also outlines two design principles that help you achieve the goals of that preference. Answer the questions on the following pages to apply these design principles and make your future food experience more robust.

TIPS:

- Each preference has its own strengths and weaknesses, so it’s important to answer the questions for all three.
- Think about how these design choices will help your future food experience better address your challenge.

make your future food experience more

UTOPIAN

Utopian futures value community, equity, and social justice. They seek idealism or sometimes even nostalgia, but can be difficult to scale and may require uncommon partnerships.

Making your design more utopian can help you find creative new ways expand your reach and achieve greater impact. Explore the two design principles to see how your answers can shape the kind of future food experience you want to create.



UTOPIAN
DESIGN
PRINCIPLE

participation

invite diverse and creative input

What new partnerships can you cultivate?

How can your experience give people an opportunity to make food or share it with their community?

Who may be left out of the conversation, and how can you elevate new voices through your design?





UTOPIAN
DESIGN
PRINCIPLE

inclusivity

design for physical, social,
or economic margins

How can you make your experience accessible to someone living below the poverty line?

What public spaces or community commons could you use to increase access?

What other social movements could you align with to make your food experience more inclusive?

make your future food experience more

SPECULATIVE

Speculative futures value adventure, creativity, and mystery. They aren't afraid to change the status quo by rewriting or breaking the rules, but their experimental nature can make them seem risky or impractical.

Making your design more speculative can help you harness new ideas and reimagine the structures created the challenges we face today. Explore the two design principles to see how your answers can shape the kind of future food experience you want to create.



SPECULATIVE
DESIGN
PRINCIPLE

imagination

encourage playfulness to
cultivate a sense of wonder

How would your experience change if you partnered with an artist, musician, or biohacker?

How can you enhance storytelling with new technologies, such as augmented reality?

How would your food experience change if you focused on intentions such as adventure, exploration, or play?





SPECULATIVE
DESIGN
PRINCIPLE

anticipation

think beyond short-term gains

How can your future food experience help people make present-day decisions that align with long-term goals?

What can you incorporate from emerging scientific frontiers such as microbiology, neuroscience, or synthetic biology?

How would you design a future food experience that fundamentally transforms how people relate to their food?

make your future food experience more

PRAGMATIC

Pragmatic futures value precision, efficiency, and scale. They work within constraints and repurpose existing assets, but they are vulnerable to disruption and can be too focused on incremental innovation.

Making your design more pragmatic can help you thrive within today's systems as you aim for longer-term change. Explore the two design principles to see how your answers can shape the kind of future food experience you want to create.



PRAGMATIC
DESIGN
PRINCIPLE

simplicity

find creativity within constraints

How could this experience serve existing markets better?

How could you prototype this future food experience in less than 1-month with less than \$1,000?

What automation technologies or artificial intelligence could make things simpler for the user?



PRAGMATIC
DESIGN
PRINCIPLE

adaptability

build capacity for rapid testing
and improvisation

What new metrics can you start tracking, and what new technologies would enable their collection?

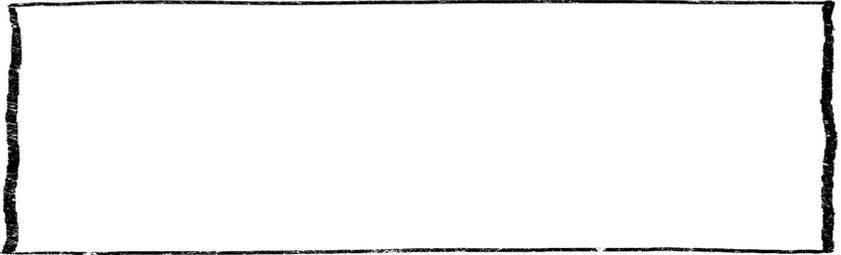
What untapped assets (infrastructure, data, human resources) can your food experience leverage in new ways?

What feedback loops can you build in to help reevaluate and improve your design?

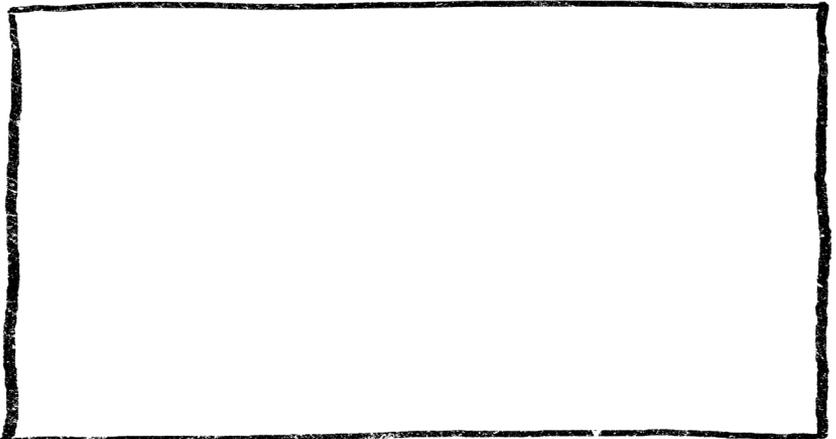
combine all three preferences

Considering your design choices for utopian, speculative, and pragmatic futures, re-state your opportunity to design a future food experience that addresses your challenge.

WHAT? | Describe your future food experience



SO WHAT? | Why is it important? How does it address your challenge?



WHAT WILL IT TAKE? | List the capabilities that you already have, and what new ones you would need to acquire or partner with in order to start making this future food experience a reality.

A large, empty rectangular box with a thick, hand-drawn black border, intended for listing capabilities.

5

PROTOTYPE

your future food experience

The final step to creating your future food experience is to prototype. Creating a transformative future food experience starts with taking small actions today that allow you to experiment and test your assumptions. These small actions can help you learn when and where to start making your future. Breaking down your long-term vision into smaller steps is a low-risk, low-cost way to refine your design and clarify your goals.

What are five actions you could do today to start making your future food experience?

1 | _____

2 | _____

3 | _____

4 | _____

5 | _____

test and learn

Start with one action from your list. Generate five “assumptions” for how this might help you create your future food experience and address your challenge. Then, think of experiments to test these assumptions to learn more.

TIPS:

- What’s the quickest, cheapest, easiest way to experiment?
- What can you do in less than an hour with less than \$100?

Your Action to Refine:

Assumptions you need to test about your action:
(What do you want to learn?)

Experiments to test this assumption:
(How can you learn more?)



CONGRATULATIONS!

You've taken the first steps to becoming a future food designer, but it doesn't stop here. Designing good food for the 21st century will require the creativity and ambition of many minds, with different motivations, skills, and preferences, to help solve our biggest challenges. Using these provocations to challenge your assumptions about what's possible will help you design the future of food today.

As you continue to prototype and design new ideas, share them with us! Send your designs to foodfutures@iftf.org.

**For more resources and inspiration
from IFTF's Food Futures Lab,
[visit iftf.org/foodfutures.](http://iftf.org/foodfutures)**

ACKNOWLEDGEMENTS

Authors: Rebecca Chesney, Rod Falcon, Ben Hamamoto, Sarah Smith, Kathi Vian

Peer Review: Dylan Hendricks, Bradley Kreit, Miriam Lueck Avery

Design and Editorial: Robin Bogott, Jean Hagan, Trent Kuhn, Karin Lubeck, Lisa Mumbach, Robin Weiss, Carol Westberg

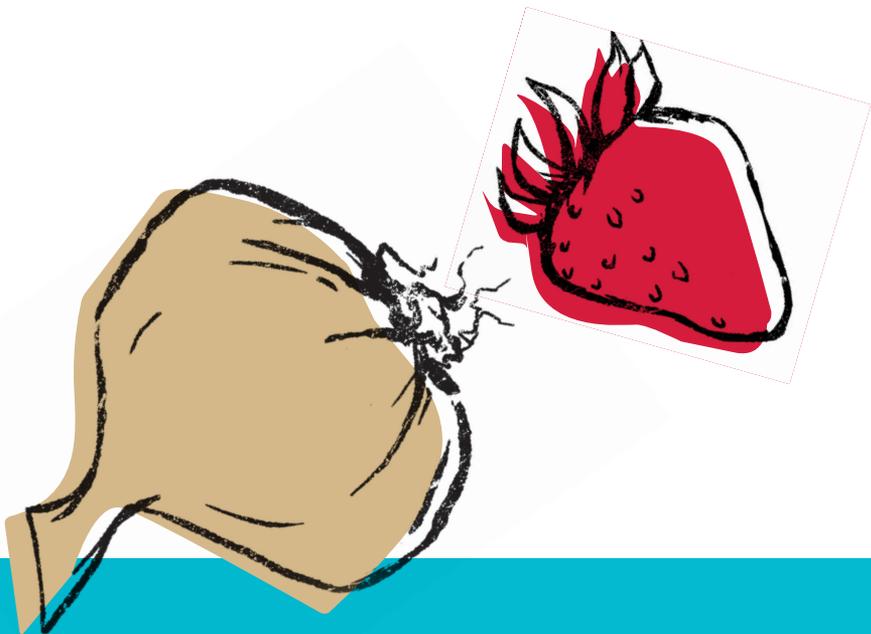
Program Management: Andrew Keller

Business Development: Tom Conger

Special Acknowledgments:

Betti-Sue Hertz, creator of the Dissident Futures framework to explore pragmatic, utopian, and speculative approaches to the future

Miriam Lueck Avery and Jan English-Lueck for applying the Dissident Futures framework to food systems. For more, see English Lueck, J.A. and Avery, M. L., *Corporate Care Reimagined: Farms to Firms to Families. Ethnographic Praxis in Industry Conference Proceedings*, 2014.



“Food Design is an unexplored field,
and there’s lots of room for many people
because there’s still so much to do.
I would say, just do it. If you’re a young designer,
you have to be aware of the power of food.
In that sense, I mean that if you work with food,
then also you have an influence on the world.”

— Marije Vogelzang, Eating Designer and Author of *Eat Love*



INSTITUTE FOR THE FUTURE

201 Hamilton Avenue
Palo Alto, CA 94301
650.854.6322 | www.iff.org