

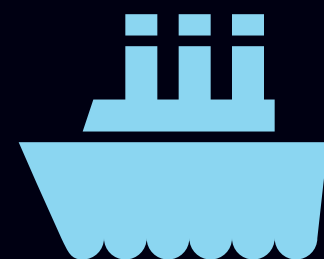
# Process Overview

We interviewed twelve experts across three continents about the future of the world's waterways, seeking input about advances in relevant technology, industry demands, and government regulation.



**4**

Government Officials  
and Regulators



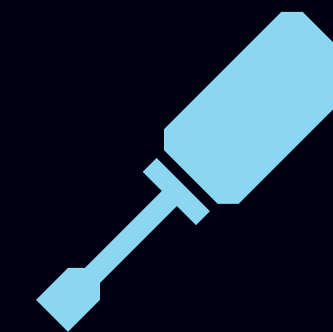
**4**

Boat Designers  
and Engineers



**1**

Automotive  
Engineer



**3**

Enthusiastic  
Hobbyists

# Interview Insights

## INFRASTRUCTURE

### Cities are investing in connectivity platforms.

Connectivity will be consistent and ubiquitous, so boats will be able to rely on the cloud for tasks that require heavy computing. This means fewer sensitive parts on boats, which means fewer design constraints and more durable vehicles.

#### Outcomes

- Automated fleets will be able to take advantage of cloud computing to optimize efficiency on the scale of cities
- Theft and sabotage, especially when it comes to smaller crafts, will be reduced

## DESIGN + ENGINEERING

### Automation means new opportunities for boat designers.

Boats can increasingly navigate without humans, which means they no longer need to be built to human scale. This creates opportunities for smaller autonomous boats that can get into places that larger boats can't. It also means that boats can be completely submerged without having to carry an oxygen supply.

#### Outcomes

- Boats will become much smaller than we're used to, so there will be more of them, likely with more specialized purposes
- Boats will take forms (including swarms) unique to their functions

## REGULATION + INFRASTRUCTURE

### Cities are increasingly regulating carbon emissions.

Many cities are adopting aggressive plans to reduce the amount of carbon they emit, aiming for zero carbon emissions in the coming decade. Many governments already have initiatives to encourage consumers to invest in green transportation options and have internal policies to invest in the same.

#### Outcomes

- Governments will buy electric vehicles for fleets
- Charging infrastructure will become more robust
- Charging infrastructure will use electricity from renewable sources or else will apply carbon offsets

# Interview Insights

## ENGINEERING

### Cheaper and more effective sensors are increasingly available.

Sensors used to require a lot of computing power and energy to measure their surroundings. Now we're seeing sensors get not only smaller and more efficient but also more effective. We can measure pollution in many forms, including pH, salinity, nitrates, dissolved oxygen, and at least a dozen other elements and compounds.

#### Outcomes

- Governments will be able to better detect and assign responsibility for chemical leaks at a consumer scale
- Water can be tested and determined safe for swimming or even drinking

## REGULATION

### Governments are increasingly concerned about citizens' privacy.

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As governments become increasingly aware about the ways that tech companies infringe on consumers' privacy, regulations will come into place to protect customers from inadvertently being spied on.

#### Outcomes

- The use of traditional cameras on boats will be limited, resulting in challenges, especially for police operations
- Governments will struggle with regulation, making what's legal something that's always in flux

## DESIGN + ENGINEERING

### More lightweight pollution-filtering materials are readily available.

Materials science is making fast advances in the creation of lightweight and durable technologies. Some even have unique features, like IKEA's new material that filters out pollution with sunlight. These and other material breakthroughs mean boats can be smaller and more effective and also have a longer life span.

#### Outcomes

- Boats will use materials that give them benefits beyond their original purpose
- Boats will be able to withstand more turbulent waters