

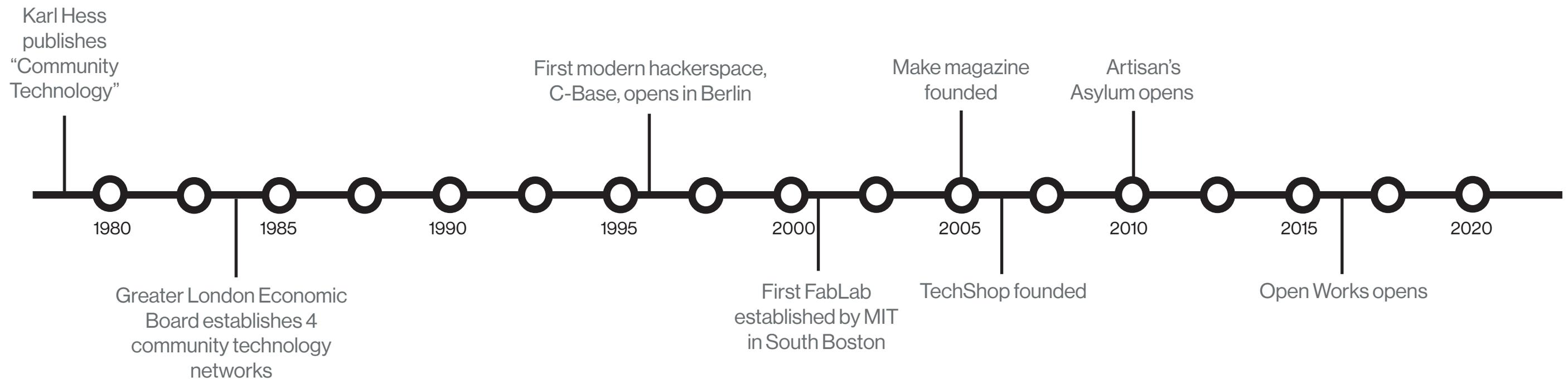
# Makerspace as Civic Infrastructure: A Case Study of Open Works

*Design School & the Industry Turn  
Design Museum, London, UK  
19 June 2017*



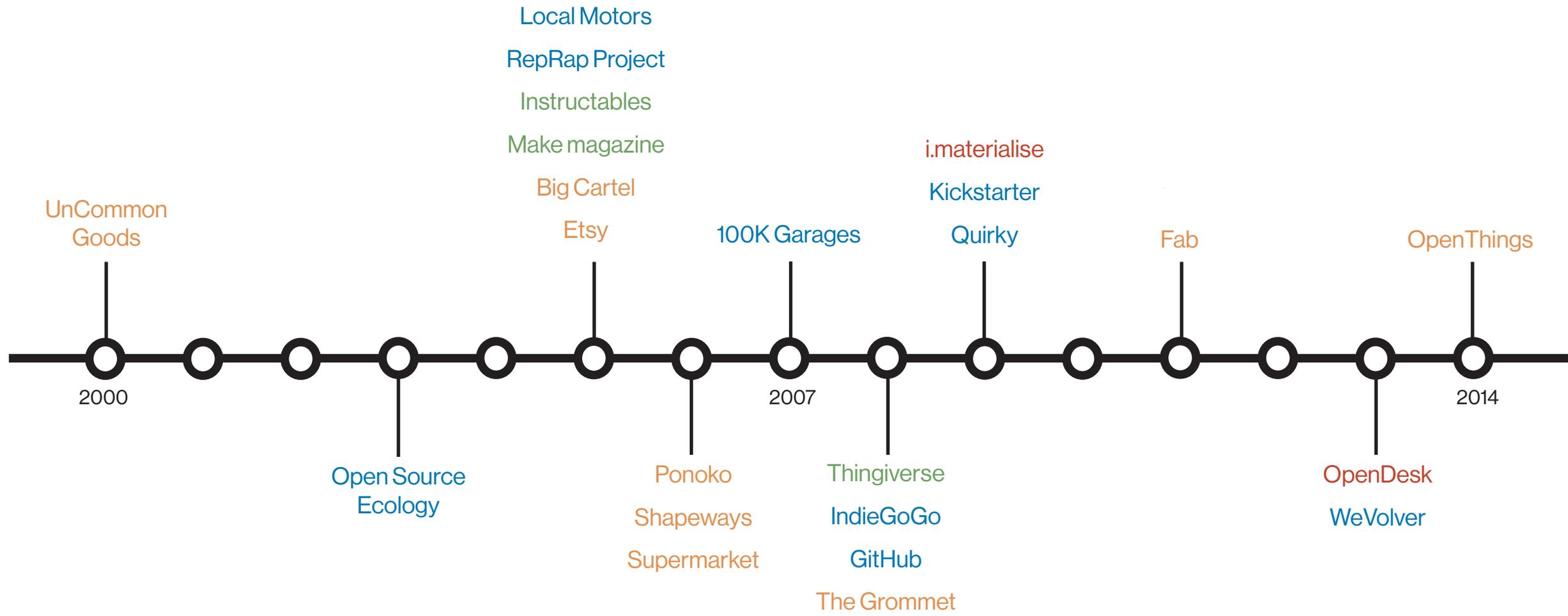
# RESEARCH





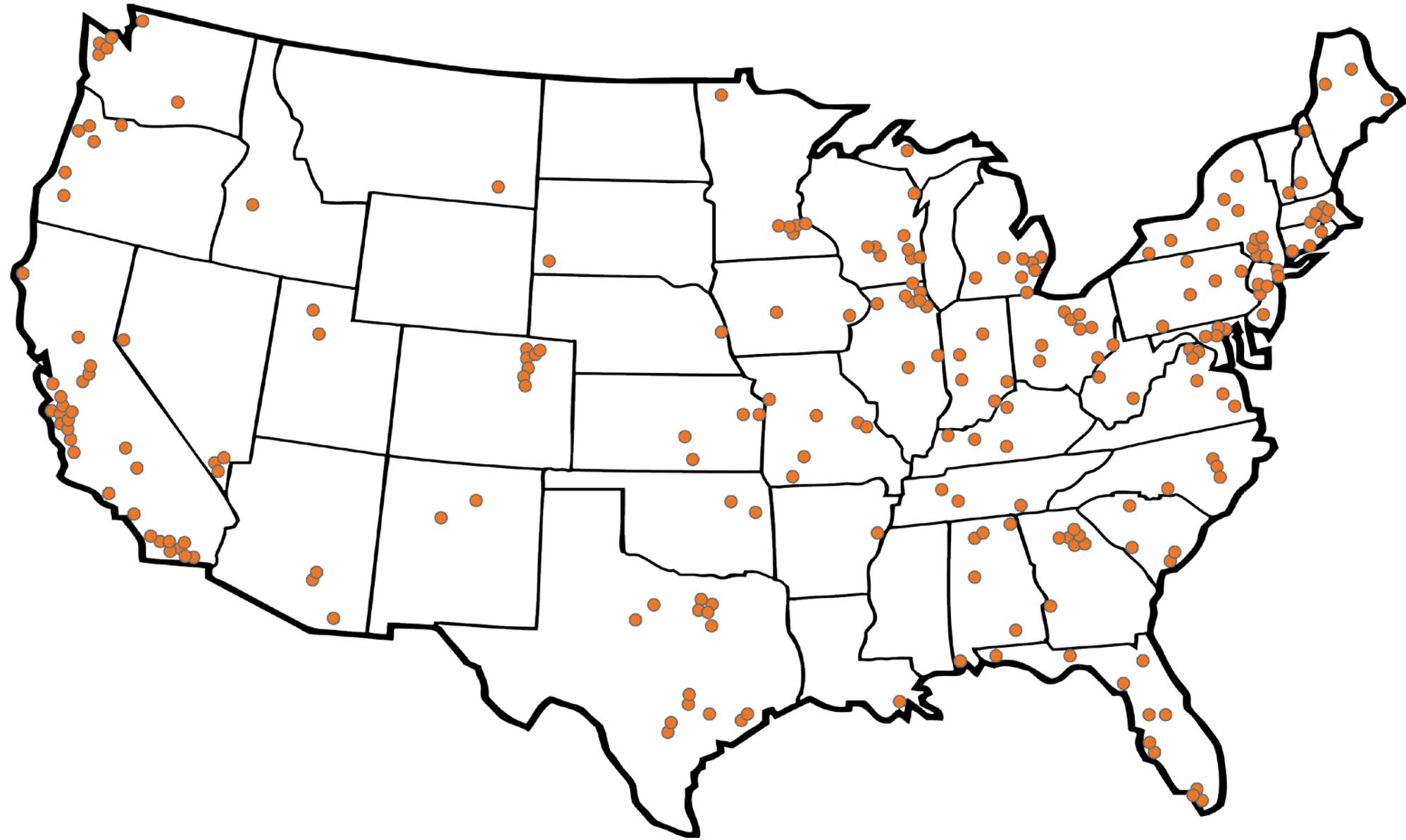
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# Modern makerspace development



- Distributed manufacturing
- Crowdsourcing/co-creation
- How-to community
- E-commerce

# Design platform development



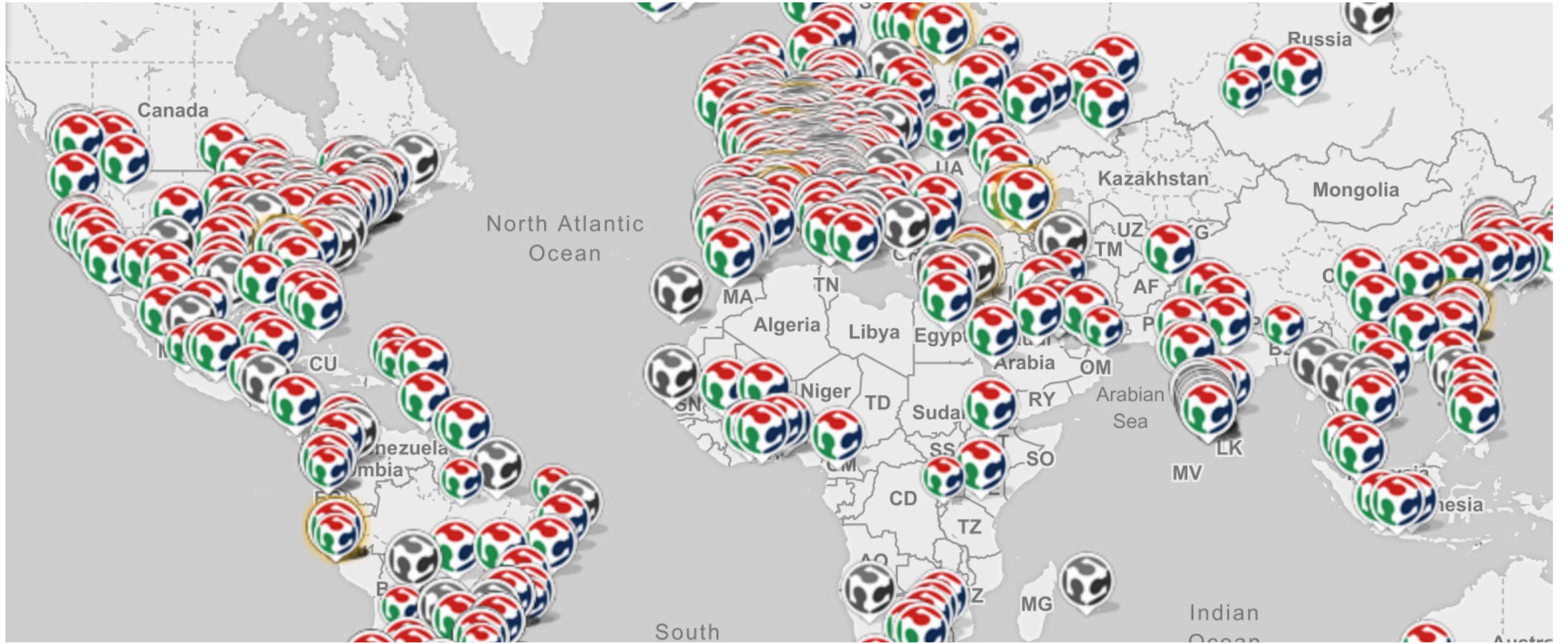
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**Over 300 makerspaces across the U.S.**



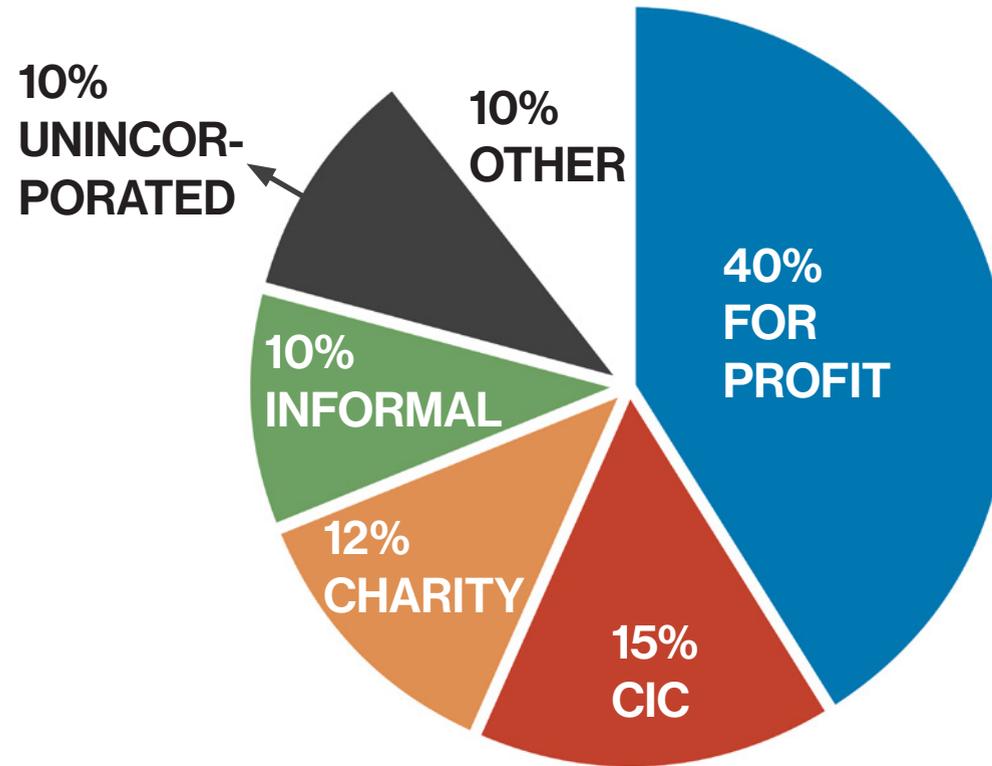
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# Nation of Makers



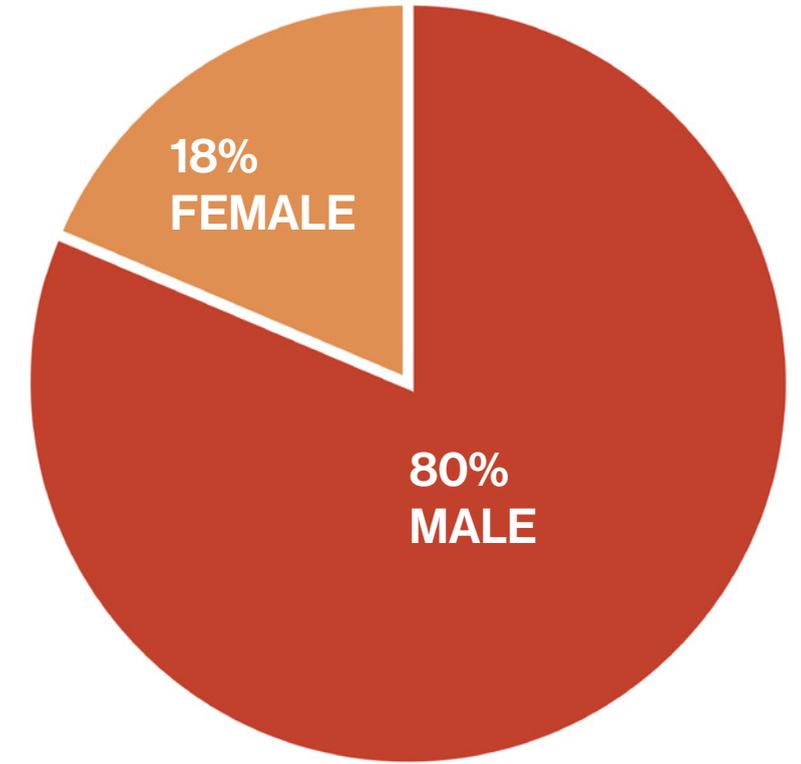
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# Global FabLab Network



TYOLOGY

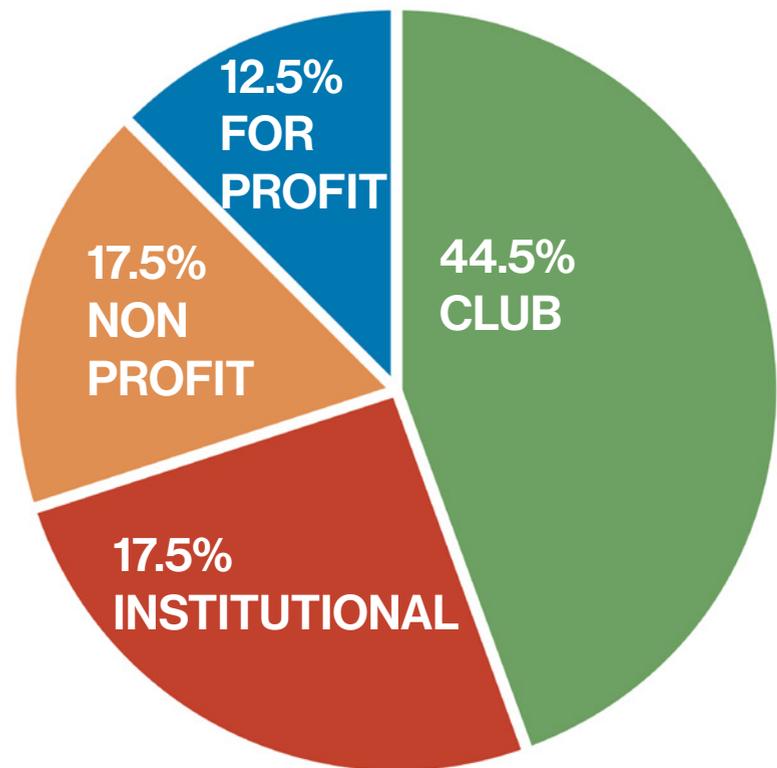
**97** *Total makerspaces in U.K.*



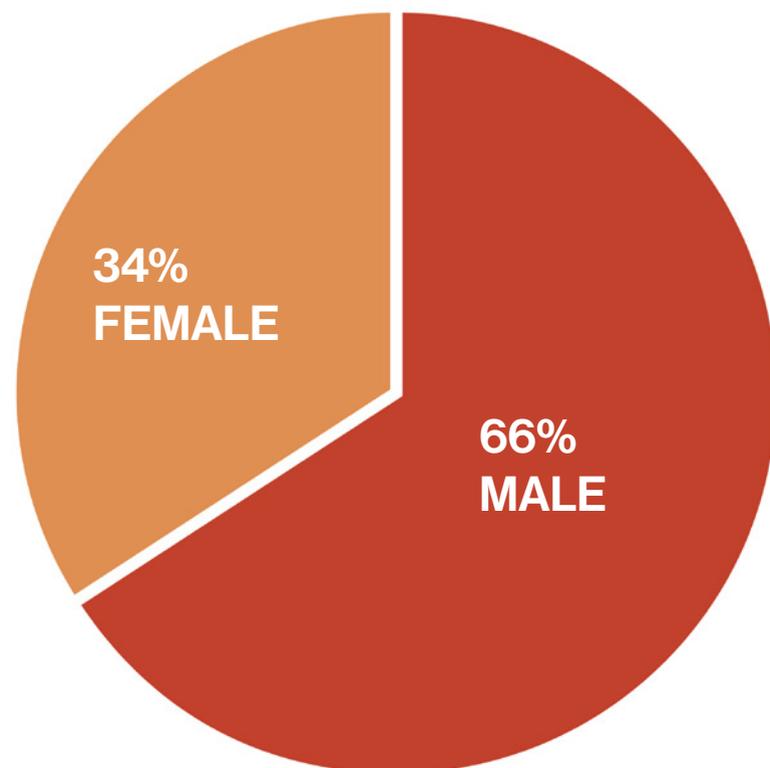
GENDER

**889**<sup>m2</sup> *Average footprint*

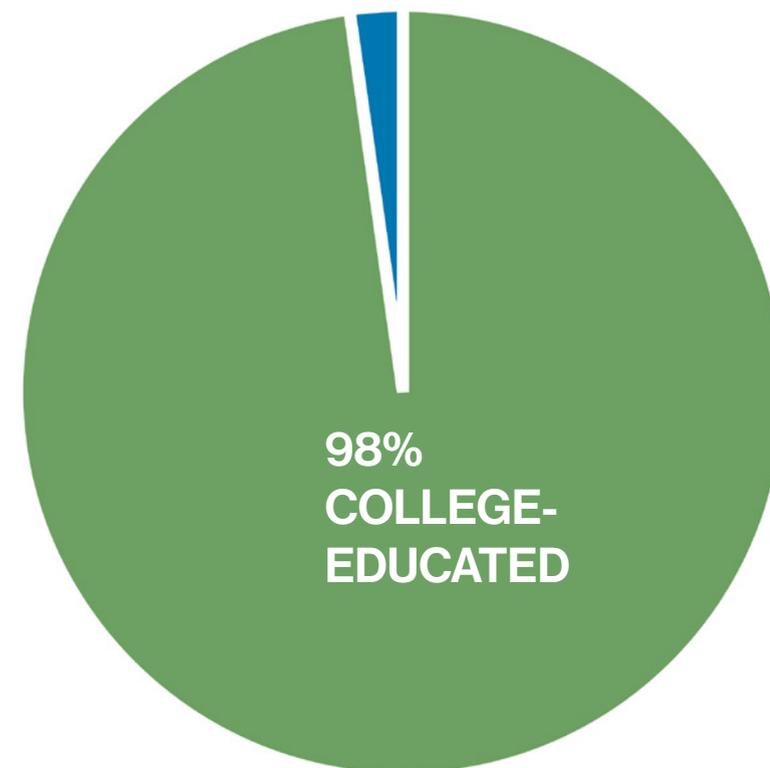
# U.K. makerspace characteristics



**T TYPOLOGY**



**G GENDER**



**E EDUCATION**

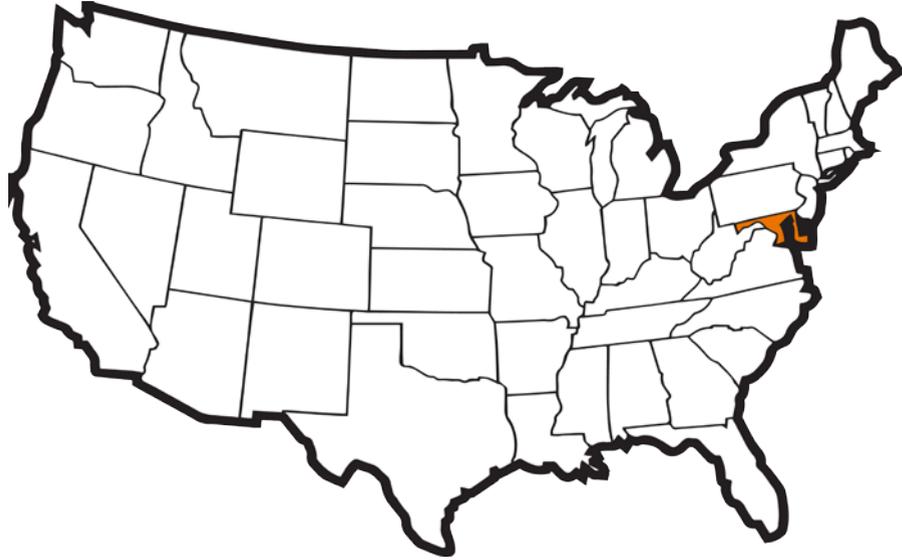
**\$50** *Average monthly cost*

**889<sup>m2</sup>** *Average footprint*

**150** *Average membership base*

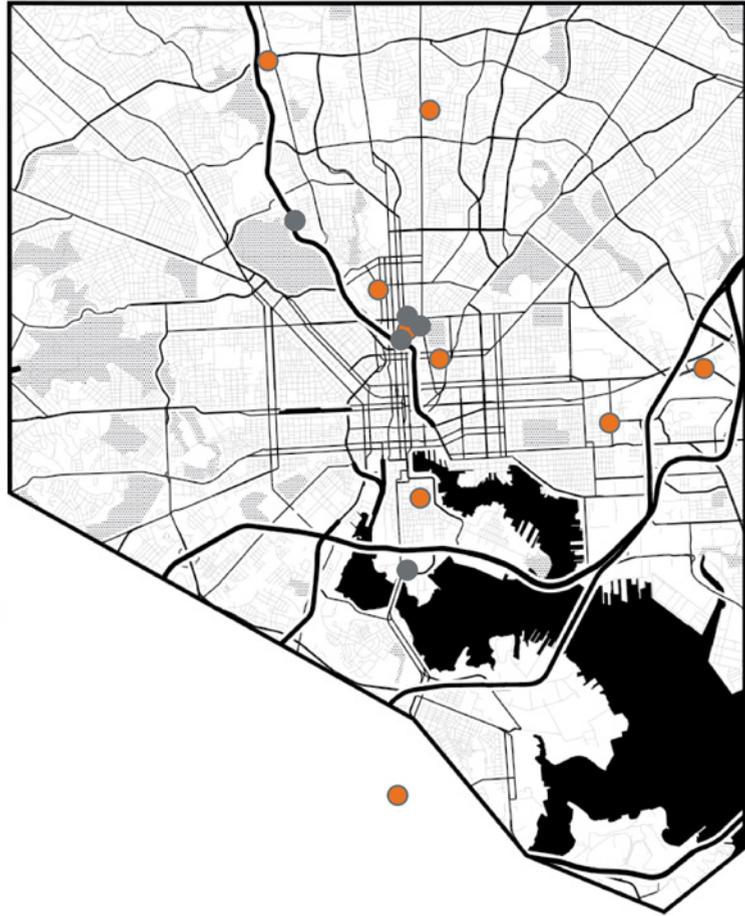
# U.S. makerspace characteristics

**SOURCES:** *Maker Faire Bay Area 2012 Attendees // Online research, June 2015*



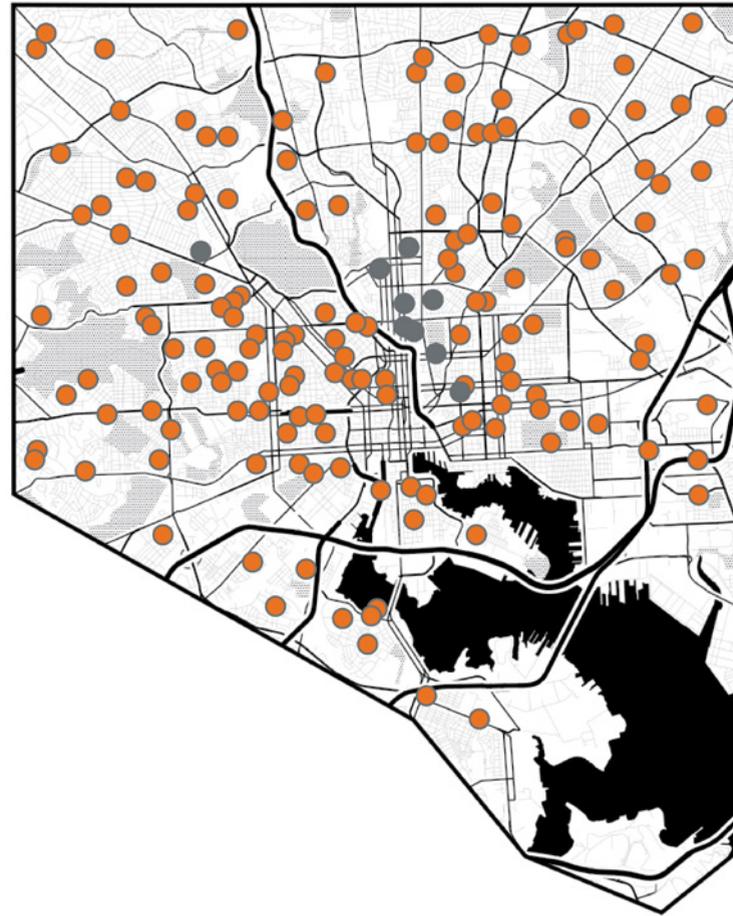
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# Baltimore



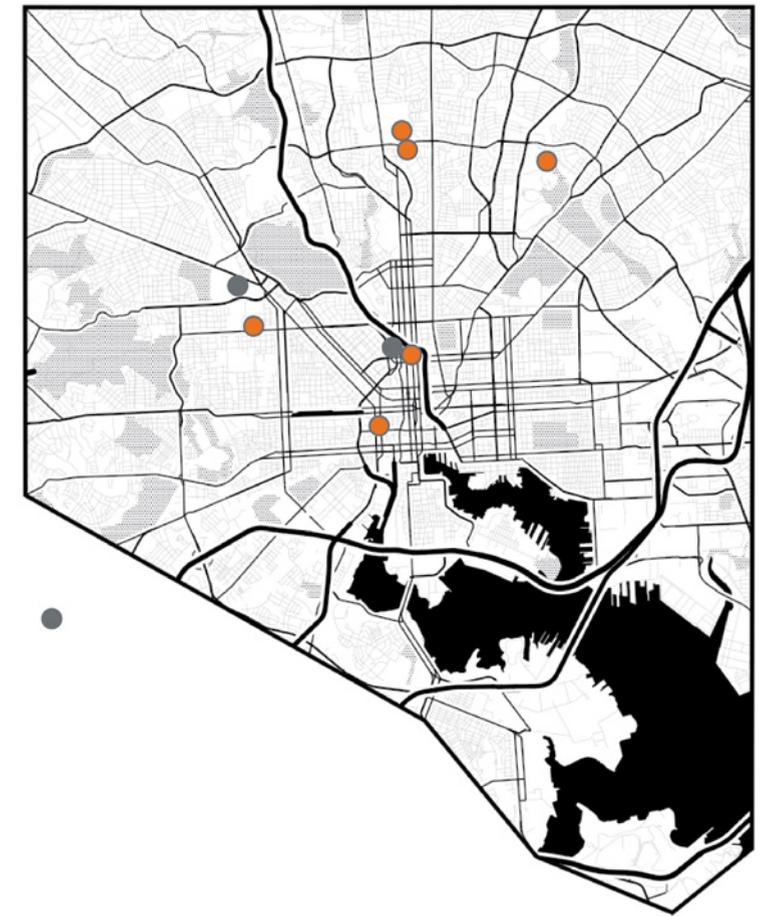
**MAKERSPACES (15)**

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**PUBLIC SCHOOLS (181)**

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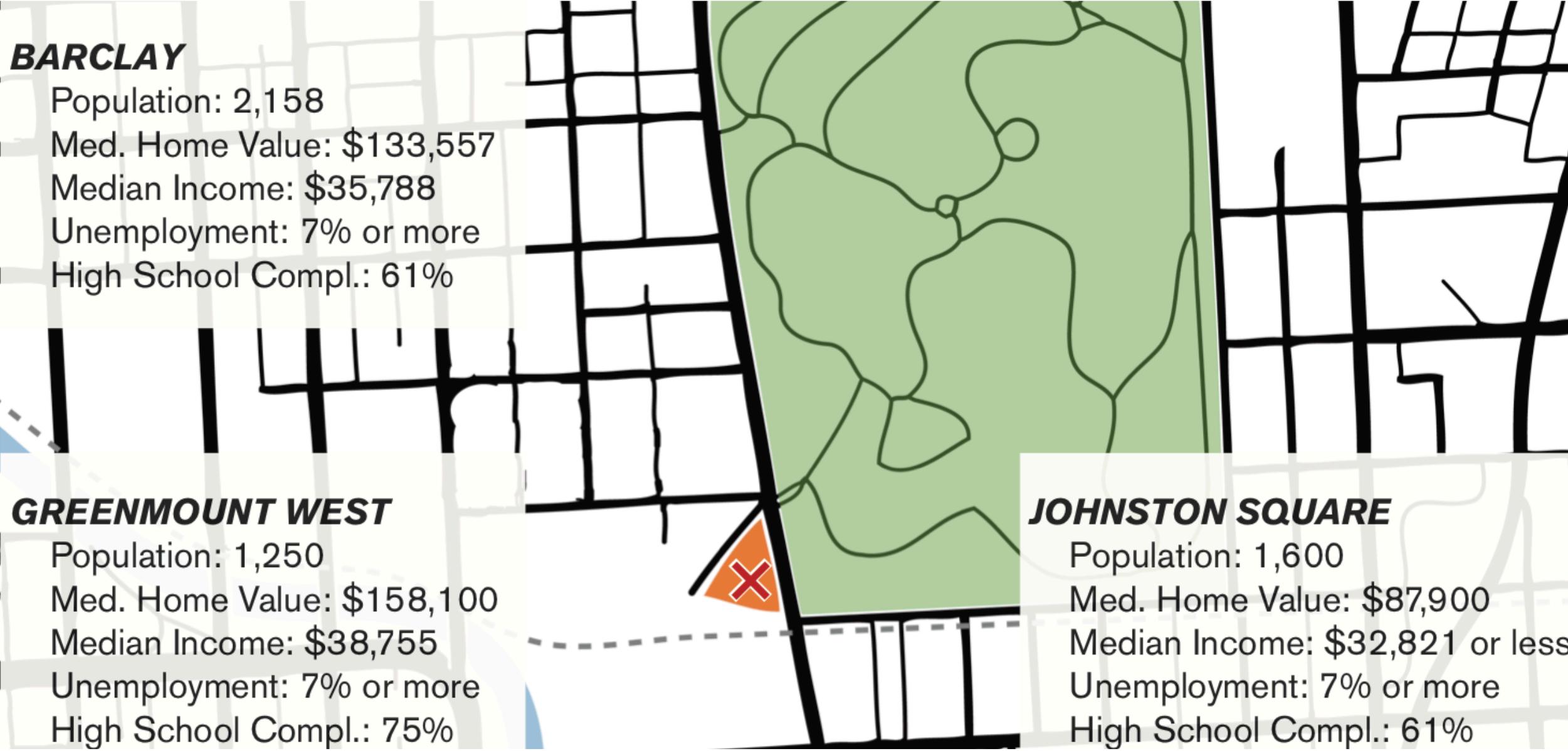


**UNIVERSITIES (11)**

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# Local Context



**BARCLAY**

Population: 2,158

Med. Home Value: \$133,557

Median Income: \$35,788

Unemployment: 7% or more

High School Compl.: 61%

**GREENMOUNT WEST**

Population: 1,250

Med. Home Value: \$158,100

Median Income: \$38,755

Unemployment: 7% or more

High School Compl.: 75%

**JOHNSTON SQUARE**

Population: 1,600

Med. Home Value: \$87,900

Median Income: \$32,821 or less

Unemployment: 7% or more

High School Compl.: 61%

---

# Neighborhood indicators

# DEVELOPMENT





2013-15

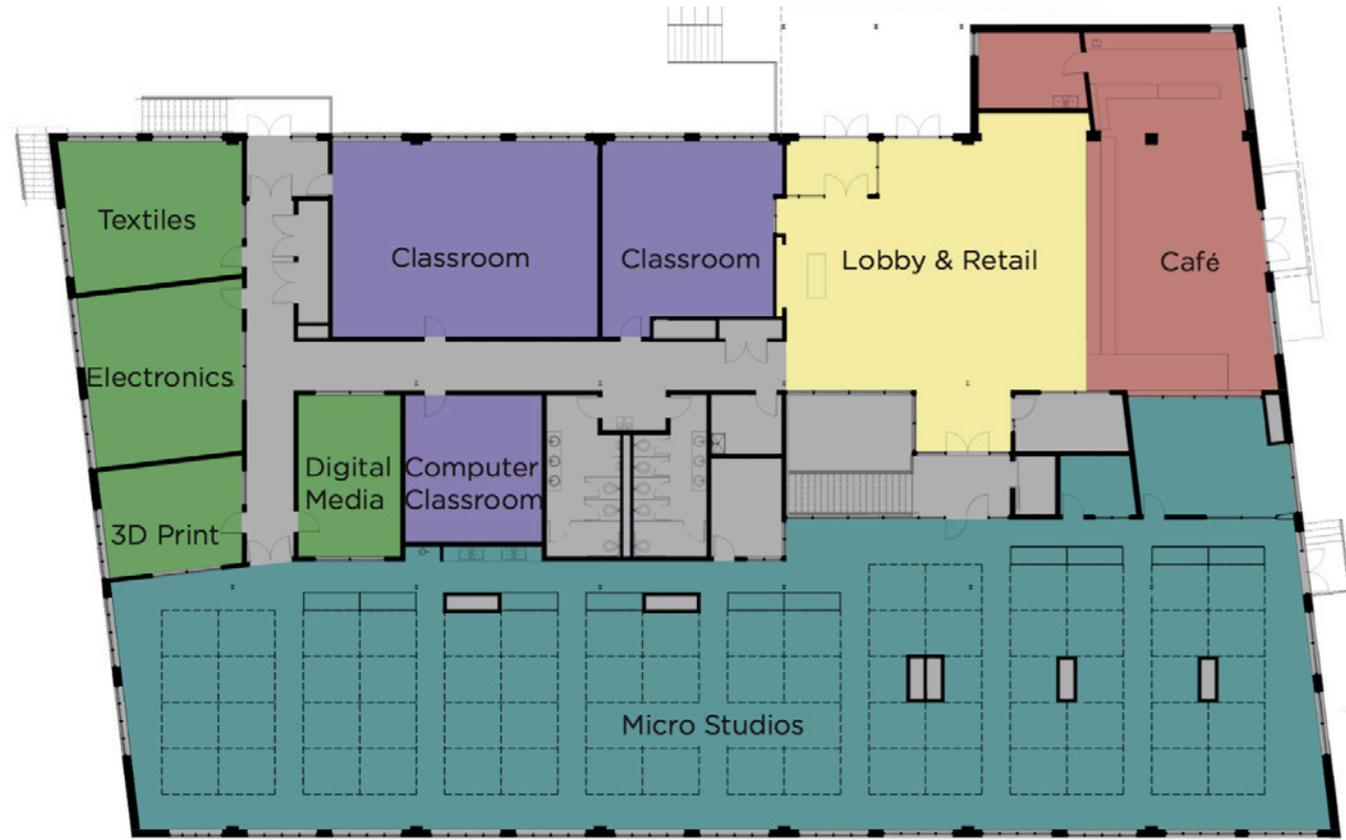


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**2013-15**



# Design evolution



**UPPER LEVEL**

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**LOWER LEVEL**

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# Floor plans



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# Rendering



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# Construction



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**Opened Sept. 28th, 2016**



**7 workshops + computer lab**



**144 micro-studios**



# Greenmount Coffee Lab

# IMPLEMENTATION



**Our mission is to make  
tools, technology, &  
the knowledge to use  
them accessible to all.**



**INSTITUTIONAL PARTNERS**

*Universities  
Baltimore City Public Schools*

**EDUCATION**

*Partner organizations  
Contract teachers*

**RWD FOUNDATION**

*Primary Funder*

**OPEN WORKS**

*Nonprofit makerspace*

**FABRICATION**

*Technicians*

**BARCO**

*Nonprofit Developer/Landlord  
Business support/fiscal sponsor*

**MEMBERSHIP**

*Member Service Associates  
Ambassadors*

**PRIMARY FUNDERS/PARTNERS**

---

**DEPARTMENTAL STRUCTURE**

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# Organizational Structure

**OPEN WORKS**

*Nonprofit makerspace*

**EDUCATION**

*Partner organizations  
Contract teachers*

*University partnerships  
Adult classes  
Grant funding*

**FABRICATION**

*Technicians*

*Contract services  
Hire-an-expert  
Material sales*

**MEMBERSHIP**

*Member Service Associates  
Ambassadors*

*Studio rentals  
Maker member: \$70/mo.  
Builder member: \$90/mo.  
Pro member: \$125/mo.  
Group memberships  
Event rentals*

---

# Business Model

**MAKE-YOUR-OWN**  
*Project-based classes*

**OPEN WORKS MOBILE**  
*Off-site maker programming  
primarily K-5 audience*

**JOB TRAINING**  
*Cut-and-sew job training pilot  
program*

**CRASH COURSES**  
*Skill-based classes*

**TEEN MAKER SHOP**  
*After school cohort of 15 teens  
from neighboring high school*

**SENIOR CLASSES**  
*Scholarship classes for sewing  
and woodworking*

**SAFETY + CERTIFICATION**  
*Required for shop access*

**YOUTH MAKER SHOP**  
*After-school / Saturday  
mornings*

**COMMUNITY BENEFIT**  
*Weekly farmer's market, coffee  
shop, drone race*

**ADULT EDUCATION**

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**YOUTH EDUCATION**

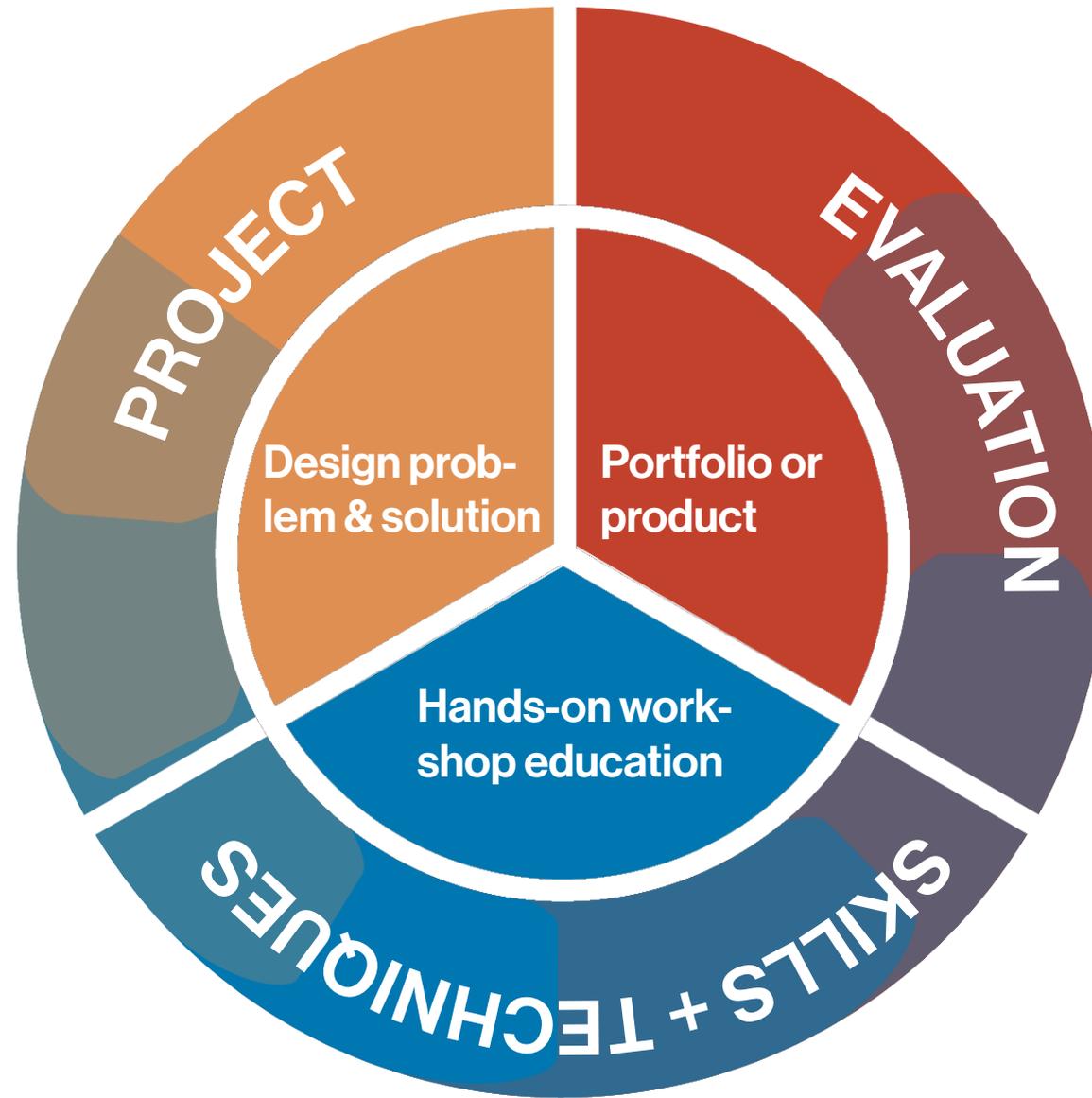
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**COMMUNITY PROGRAMMING**

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# Programming Structure

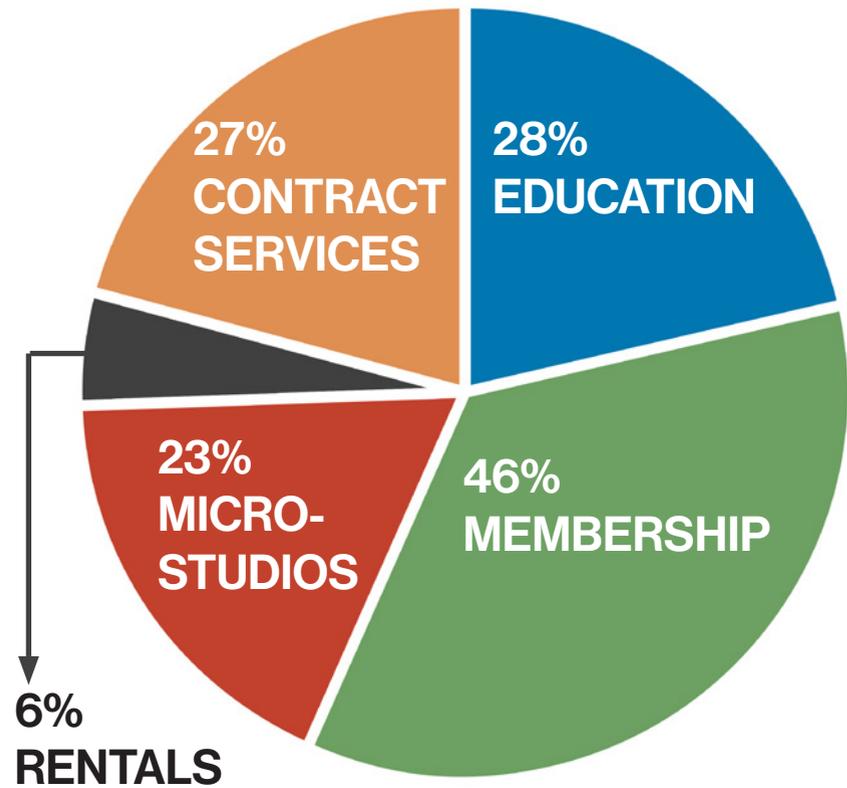


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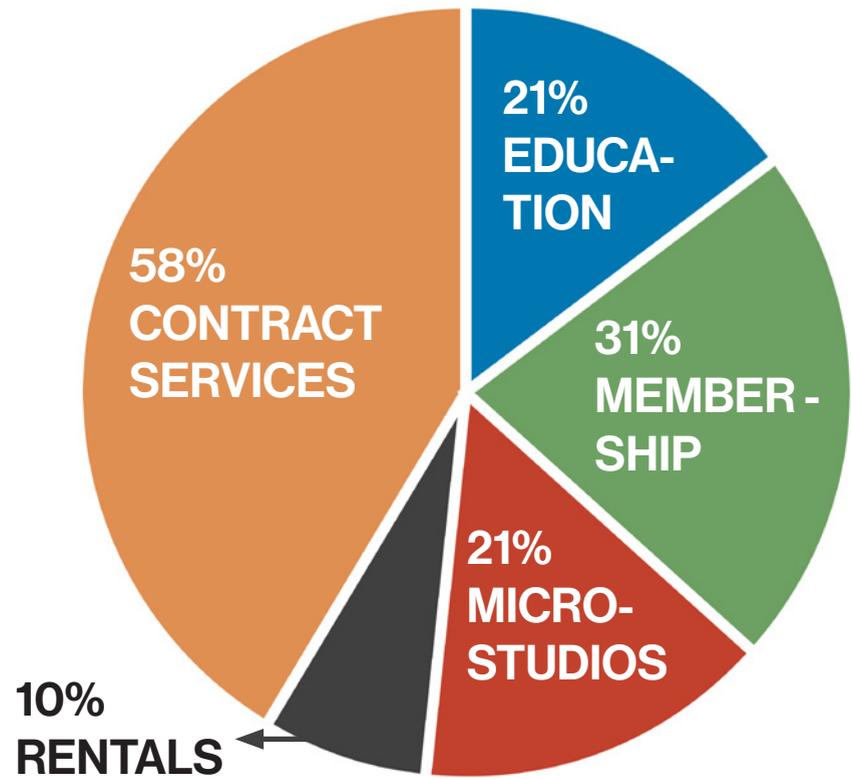
# Learning Cycle

# RESULTS





**PROJECTED**



**ACTUAL TO DATE**

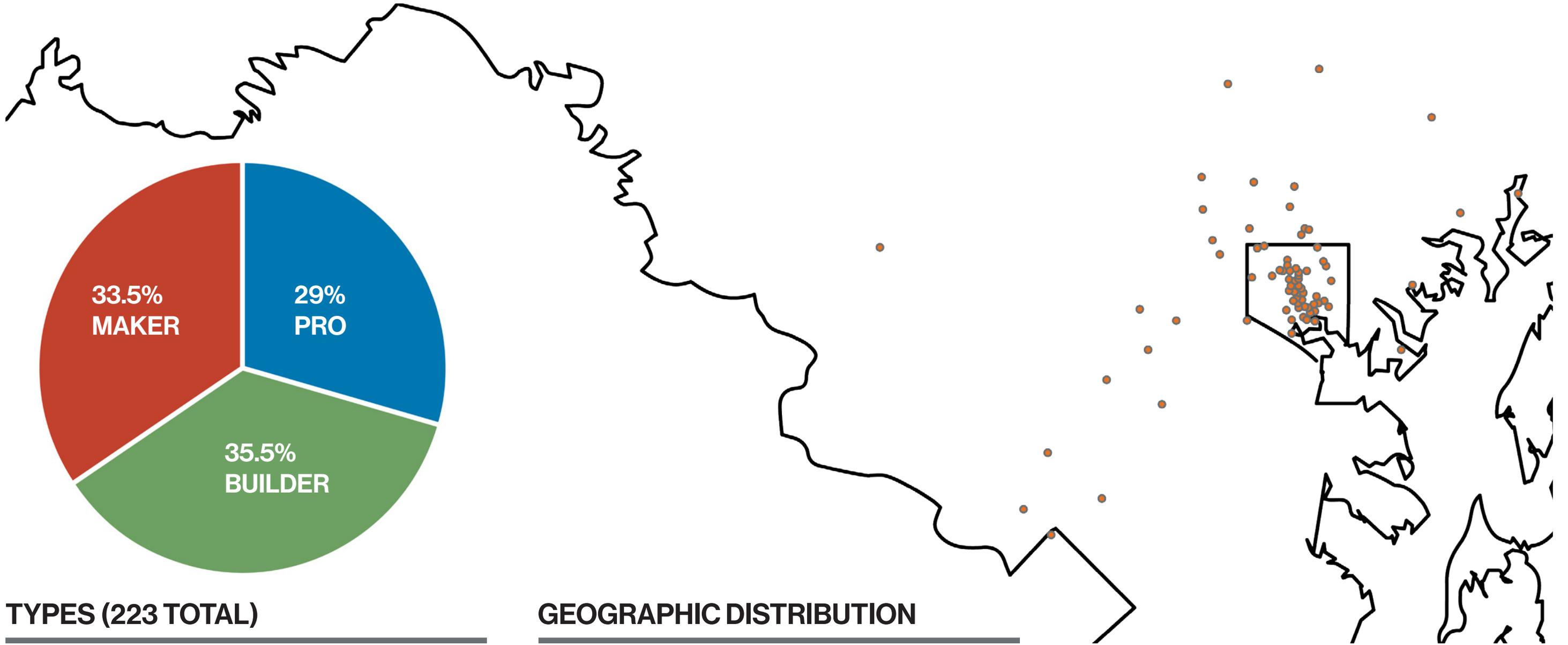
**\$95** *Average Monthly Membership Fee*

**\$75** *Hourly Contract Services Rate*

**\$22** *Average Hourly Class Fee*

**400** *Projected Member Capacity*

# Business Model

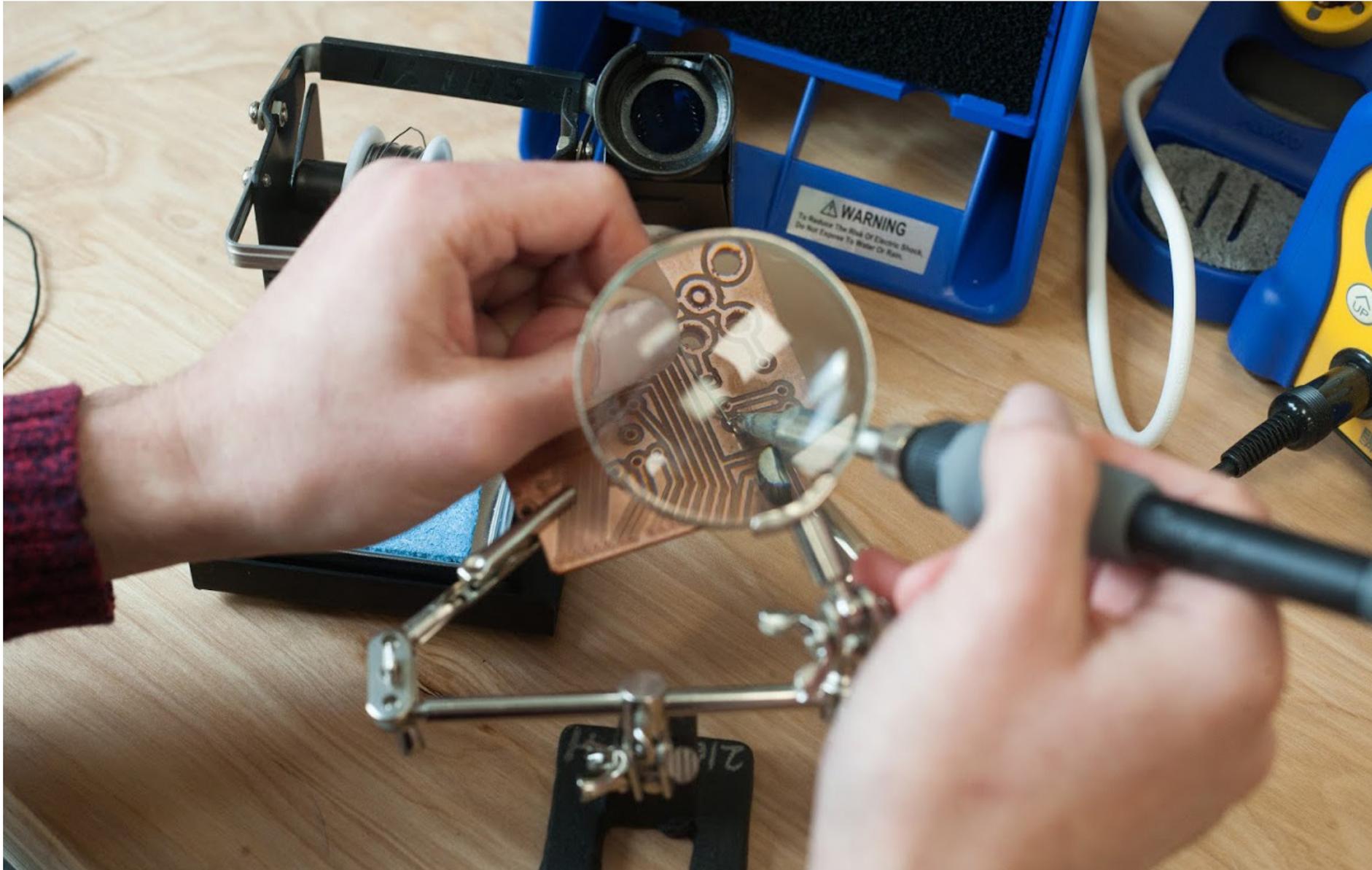


TYPES (223 TOTAL)

GEOGRAPHIC DISTRIBUTION

---

# Membership



**598** *Safety class participants since opening*

**121** *Elective class participants since opening*

**292** *Youth class participants since opening*

**46** *Open Works Mobile site visits*

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# Education



**SIGNAGE**

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**69** *Jobs complete*



**OPEN DESK**

---

**2** *Open Desk distributed manufacturing jobs*



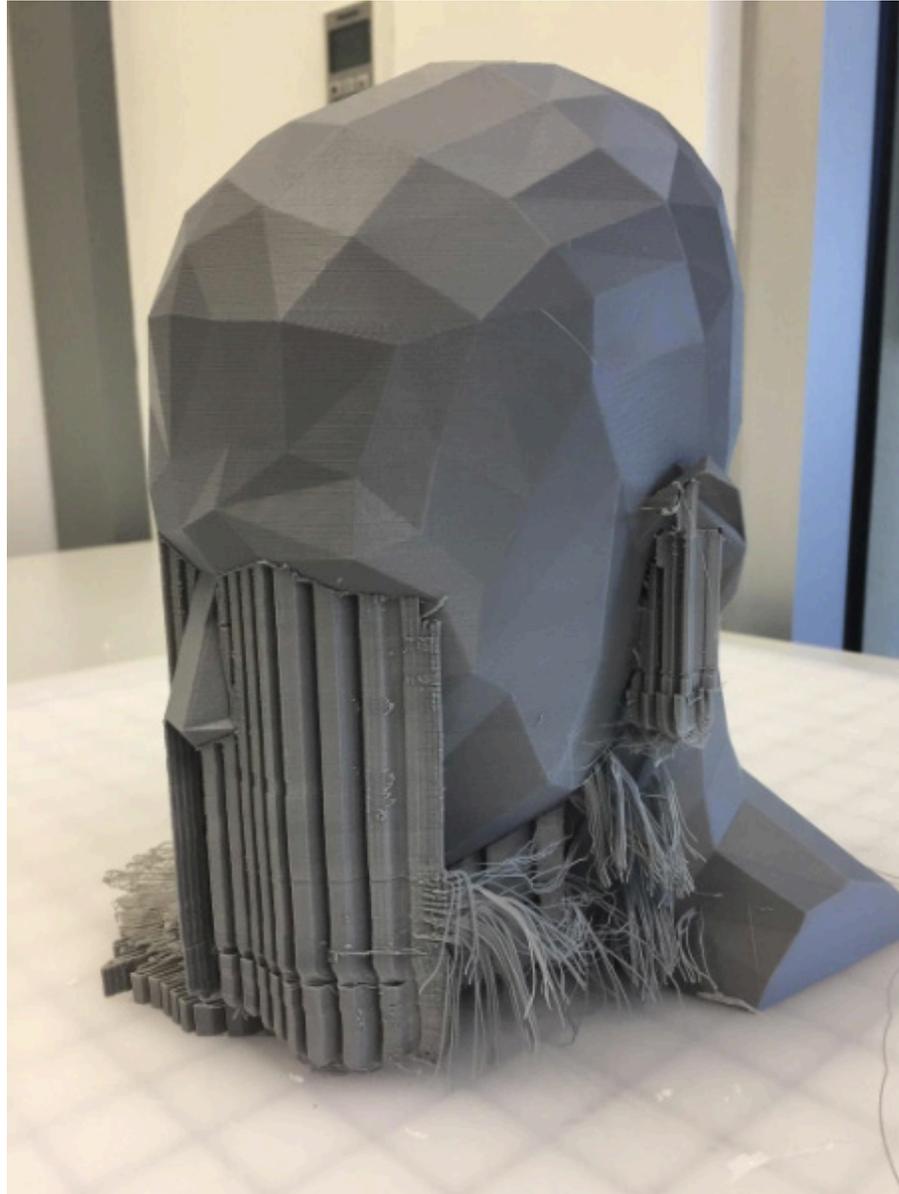
**DIY VACUUM-FORMER**

---

**\$3,035** *Avg. job*

---

# Fabrication



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## Member projects



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# Community

NEXT



**What does this  
mean for the future  
of design?**





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# The smile curve

SOURCE: *Stan Shih, founder of Acer, Inc.*



**19%** *U.S. share of global manufacturing output*

**53M** *Number of U.S. contractual workers*

**55%** *Jobs vulnerable to automation*

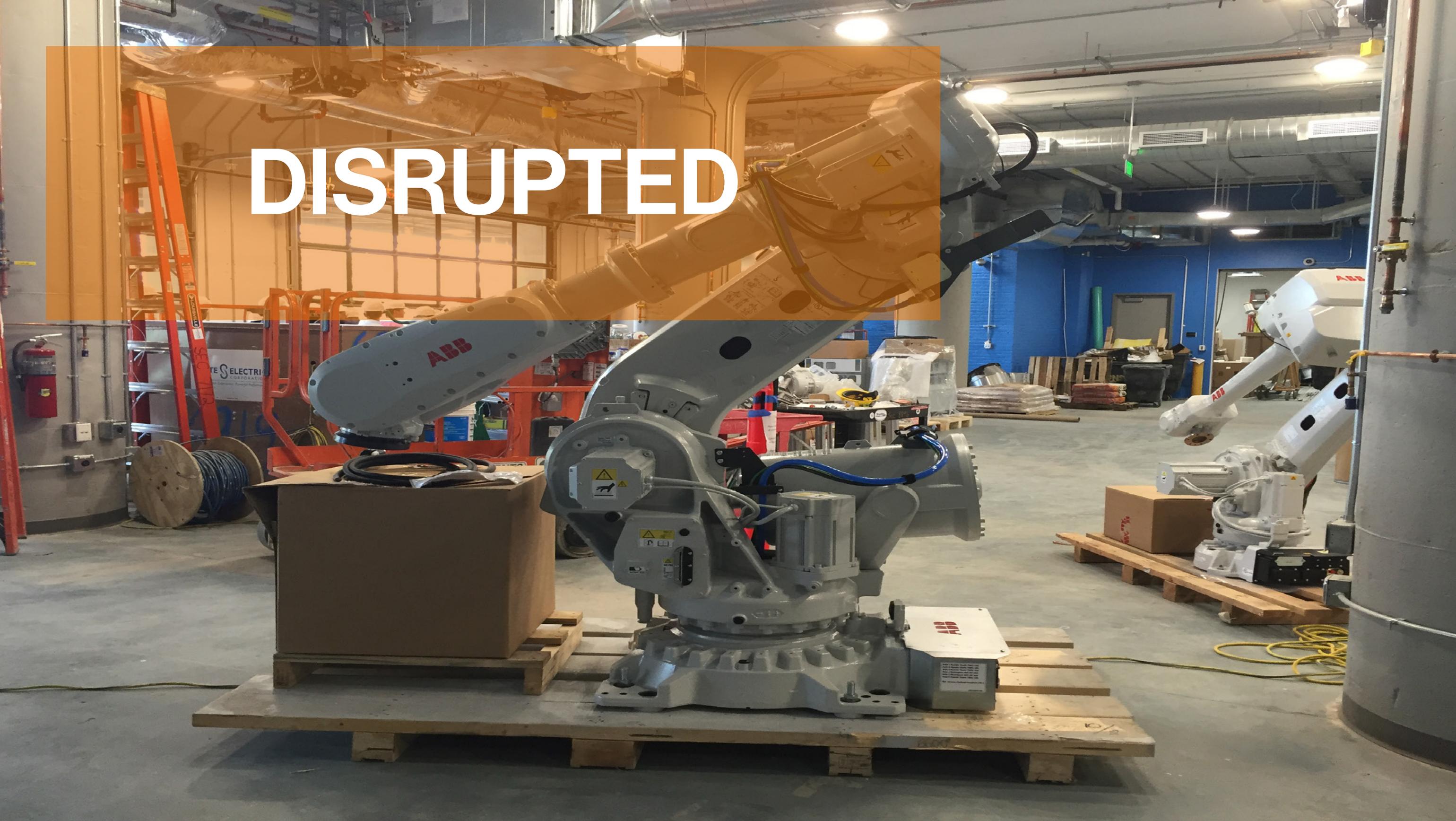
**63%** *Growth in local single-employer manufacturers since 2003*

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# Manufacturing + employment trends

**SOURCES:** Bloomberg (<https://www.bloomberg.com/news/articles/2017-06-08/factories-won-t-bring-back-the-american-dream>), Entrepreneur (<https://www.entrepreneur.com/article/275362>), The Atlantic (<https://www.theatlantic.com/business/archive/2017/05/the-parts-of-america-most-susceptible-to-automation/525168/>), Baltimore City Department of Planning Made in Baltimore initiative

# DISRUPTED



# DEMOCRATIZED



**DECENTRALIZED**



**DESTABILIZED**



# THANK YOU!



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objectguerilla.com



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