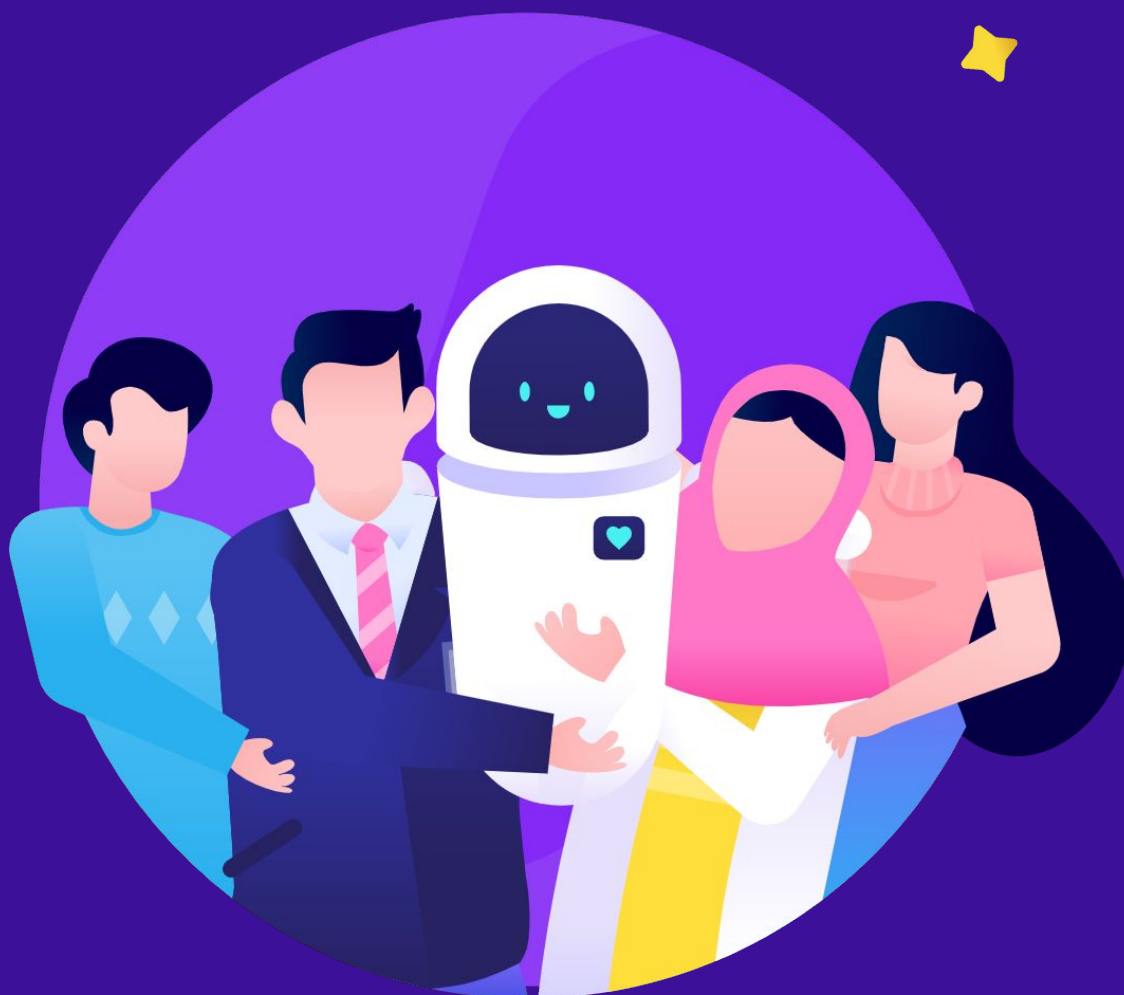


# Impact report

## ✦ 2019

How Humans in the Loop is impacting  
conflict-affected communities by connecting  
them to employment and training



# Table of contents

ABOUT US .....	3
A WORD FROM THE FOUNDER .....	4
THE TEAM .....	5
IMPACT MODEL .....	6
THEORY OF CHANGE .....	7
PARTNERSHIPS .....	6
WORKER PROFILE.....	10
WOMEN INCLUSION .....	11
EMPLOYMENT .....	12
TRAINING .....	13
★ PRIORITY SCORING .....	14
IMPACT ASSESSMENT .....	15
CHALLENGES FACED .....	16
CASE STUDY: YAMAMA.....	18
ADVANTAGES .....	19
CASE STUDY: SHYAR .....	21
WAY FORWARD .....	22
ACKNOWLEDGEMENT .....	23



# About us

Founded in 2017, Humans in the Loop is an innovative **social enterprise** that employs refugees to provide image annotation and model validation services to companies in the field of Artificial Intelligence.

The enterprise is a hybrid between a for-profit company and an NGO: achieving sustained social impact through financial independence.

We work with computer vision companies around the world to channel work opportunities to conflict-affected communities, such as refugees, migrants, asylum-seekers and internally displaced people.

It's widely believed that AI will replace jobs across a number of sectors. However, at the same time a whole new dimension of jobs will be created, related to training and monitoring AI.

At Humans in the Loop, we are preparing the **workforce of the future**, which is responsible for training and improving AI models.

By plugging in a professional "human-in-the-loop", computer vision companies can ensure the continuous maintenance of their AI models through human input. We believe that this type of work will become commonplace in the very near future.



The easy and accessible work that we provide is meant to serve as a springboard to other online work opportunities. Our workers acquire not only hard computer skills but also soft workplace skills and an understanding of the AI industry.

This is how we aim to help not only reconstruct communities by outsourcing digital remote work, but also rebuild lives and upskill annotators for the work of the future.

Our model of enabling conflict-affected communities to rebuild their lives is a durable solution that gives people a dignified way to earn money and improve their skills.

# A word from the founder



There couldn't be a more suitable name for our social enterprise than "**Humans in the Loop**". It embodies everything that we are in both the technical aspect – as a company working to power

Artificial Intelligence through human input, and the impact one – as a social enterprise which works for the integration of conflict-affected people into the future of work.

Communities such as refugees, displaced people, and people living in conflict areas can be assisted to "**leapfrog**" directly into the future and become an essential part of the new AI economy. As remote work is becoming commonplace, we believe that it can open up many opportunities and turn underprivileged locations into digital hubs and refugees into digital nomads.

Nonetheless, we are also conscious of the lack of regulations and protections against the novel problems that the AI industry presents. We are absolutely against fostering the "digital sweatshops" of the future and we are taking active steps in monitoring and evaluating how our work is impacting the people it is supposed to benefit. The present Impact report is the result of these continuous efforts.

I am very proud of the scale that Humans in the Loop has been able to achieve in just a few years. We are now providing work in 4 countries: **Bulgaria, Turkey, Syria, and Iraq**, and we have created some amazing partnerships with organizations on the ground. As we grow, we are aware of the trade-off between breadth and depth of impact and we are using this report as an opportunity to revisit and to iteratively improve our theory of change based on the feedback of our community.

It's exciting to think about what the future holds for us and our humans in the loop. And it's even more exciting to think that we are currently in the epicentre of the AI industry and that it is up to us to design and build a future where anyone can become an active part of the latest technological advancements.

# Team



**Tess Valbuena**  
**Chief Operations**  
**Officer**

Tess joined HITL in September 2019. She says what grabbed her attention and interest was HITL's business model and social mission.

Coming from an Operations and Sales background with more than 15 years of professional experience in the Outsourcing industry, Tess brought great value to the company as she took the position of Chief Operations Officer.

She shares that she is glad to be contributing and putting her skills to use for an organization that aims to transform people's lives, families & communities through meaningful employment and delivers a positive social impact.

Raghda moved to Bulgaria August, 2018 as a refugee from Gaza, Palestine. Her first job in Sofia was as an annotator with HITL. She was soon noticed by HITL's team thanks to her attention to detail and her high quality work.

She was appointed as a supervisor with the enterprise and has been part of the mission ever since, assisting the team with social mediation, translation, and community management.

Talking about how she has seen the company shape up, she says, "When I come across anyone looking for work. I tell them about HITL. It has been great. We are working to make things better every day. There is more to do and we are at it."



**Raghda**  
**Alsamman**  
**Supervisor**



# Impact model

**The social impact model of Humans in the Loop is centered around livelihoods and upskilling.**

We refer to our target group as “conflict-affected” which includes refugees, internally displaced people, asylum-seekers, and locals residing in conflict-ridden zones.

We recognize that these communities may face a severe lack in opportunities to earn their livelihoods for a variety of reasons: displacement, legal status, limited labor market, and lack of transferable skills.

Back in 2017 when the enterprise was founded, a potential model we were exploring was creating an IT skills or coding school, following successful examples in Europe and the Middle East.

However, after a **needs assessment** we concluded that a large proportion of those in need of opportunities do not have the necessary basic skills and are not able to spend a considerable time in training due to pressing economic needs.



## Our solution

was to design a **dual program** which provides easy and accessible job opportunities to unemployed and underprivileged individuals affected by conflict while at the same time building their skills up and opening the door to other opportunities in the future.

Our **Theory of change** is built upon this blended model for upskilling and employment.

# Theory of change



## Goal

To help conflict-affected communities be self-sufficient through digital microwork employment in the field of AI annotation



## Objectives

Over 5 years, 3000 conflict-affected persons (refugees, asylum-seekers, IDPs, locals, 50% of whom are women) across the Balkans and the Middle East have:

1. secured their livelihoods through part-time digital remote work
2. achieved basic English, basic computer literacy and data labeling skills



## Outputs

3000 conflict-affected persons across the Balkans and the Middle East have:

1. worked for at least 6 months for 40 hours per month on average on remote projects
2. received a 3-month training in basic English, computer literacy and data labeling skills



## Activities

1. Create partnerships in 8 countries across the Balkans and the Middle East
2. Onboard and provide employment to 3000 conflict-affected people) over 5 years
3. Enforce minimum 50% participation for women in recruitment and training activities
4. Secure enough revenue in remunerated AI annotation projects for the 5-year period
5. Implement trainings for all workers prior to receiving access to annotation work

# Partnerships

After successfully proving the viability of our model in our HQ in Bulgaria with refugees and migrants, in 2019 we had the great opportunity to scale our impact to other countries in partnership with local organizations.



**Bulgaria**



**Iraq**



**Turkey**



**Syria**

Our target region is primarily the **Balkans** and the **Middle East**, where we are working both in countries with a large presence of displaced people (such as Turkey) and in countries where local populations have been affected by armed conflict (such as Syria and Iraq).

Our partners on the ground are established organizations with considerable track record which are doing IT and freelancing training. For them, it's extremely valuable to be able to connect their trainees with paid digital work projects, while for us these partnerships ensure that we can count on a scalable, trained and supervised workforce.

Our partners also help us address common issues such as internet connectivity, access to equipment and payment processing.



# Partners



## WorkWell Iraq

In the spring of 2019, Allen Ninous, the Microwork program manager at Preemptive Love Coalition's WorkWell program in Iraq got in touch with us with an inquiry for a partnership.

It was the perfect timing as many of our annotators had inquired whether they could get friends and family from their home countries involved and we were in need of additional workforce for annotation projects.

WorkWell is currently operating in **4 cities** in Iraq (Erbil, Suleimaniyah, Dohuk, Mosul) and **82 people** across these locations have been connected to remote work opportunities with Humans in the Loop.



## Roia Foundation Turkey & Syria

In the fall of 2019, we also started conversations with the Roia Foundation, which had many beneficiaries in Syria and Turkey who were eager to get access to remote jobs.

After a successful pilot and a pro bono project for satellite imagery annotation for the Space Center in the UAE, we were able to include Roia's trainees in a series of annotation projects which have helped to build up their computer and freelancing skills.

Throughout 2019, **36 Roia workers** across **3 cities:** Istanbul (Turkey), Gaziantep (Turkey), and Aleppo (Syria) took part in Humans in the Loop projects.



# Worker profile

167

## People employed

In 2019, Humans in the Loop provided employment to a total of **167 annotators**. 61 of them were based in Bulgaria, 72 in Iraq, 25 in Syria, and 9 in Turkey. Among workers in Bulgaria, 34% were Syrians, 21% were Iraqis, 10% were Palestinians, while the rest included countries like Yemen, Afghanistan, Iran, Libya, etc.

The **average age** of our workforce in Bulgaria is 26, in Syria 24, in Iraq 26, and in Turkey 30. Even though most of the annotation workforce could be classified as “youth” (less than 25 years old), we accept workers of all ages, assuming they are over 18 years old, and 5% of our total workforce was 40+ years old.

25.9

## Average age



## Status

At Humans in the Loop, we select workers based on them coming from a **conflict-affected background**, independently of their legal status. In Bulgaria, 27% of annotators in 2019 were refugees, 22% had a humanitarian status, 16% were residing in the country with a foreigner permit, and 8% were asylum-seekers. The rest of the annotator pool had acquired Bulgarian citizenship.

In Turkey, the population we work with are Syrian migrants, including people with disabilities. In Syria, we work primarily with locals (52%) and internally displaced people (48%). In Iraq, 43% of annotators are locals, 35% are refugees, 22% are internally displaced from other areas.

# Women inclusion

From the point of its conception, HITL has sought to be a social enterprise that is sensitive to the particular experiences of female refugees. In its **Gender Inclusion Plan**, the company identifies the importance of providing favorable conditions in order to successfully integrate women into the labor market.

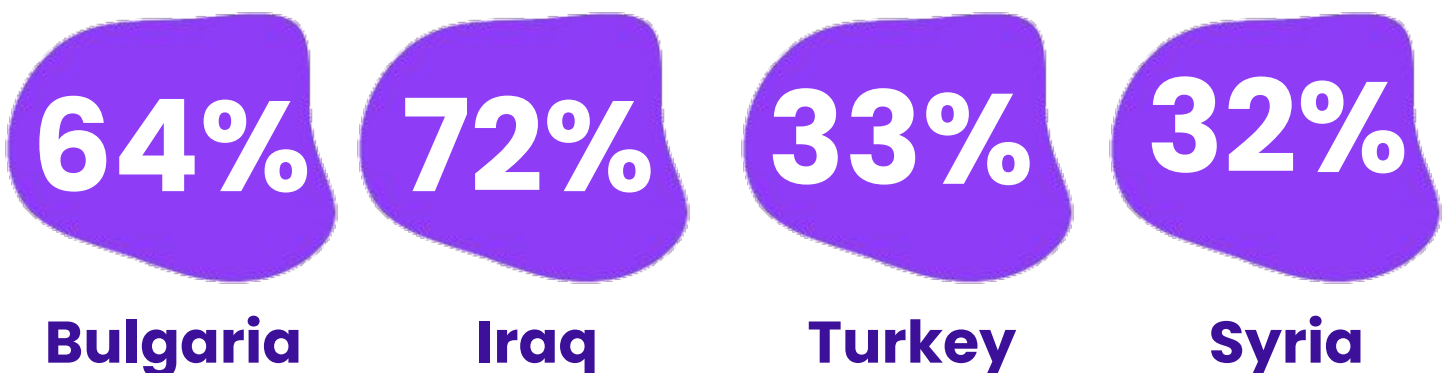
Our vision is that **remote work** can be a very appropriate way to enable women to secure their livelihoods due to several factors which are especially beneficial for women who have to combine work with childcare and household responsibilities::

**Safety   Flexible schedule   Work from home**



In 2019, two thirds or more of our workforce in Bulgaria and Iraq was female. In Turkey and Syria, the proportion of women was one third and we are working together with Roia in order to increase it over 2020.

## Proportion of women in our workforce



# Employment



The employment model at Humans in the Loop is centered around providing access to easy and accessible **freelance annotation projects** that people can work on remotely from home or using our equipment.

Workers are selected on a per-project basis based on their skills and prior results and they work part-time on projects, each of which usually last between 2 and 3 weeks.

Annotators are compensated on a monthly basis with a civil contract or a stipend for all projects they have taken part in over a given month.

The annotators at Humans in the Loop are protected by Minimum Wages in their respective countries (0.81 EUR/hour in Iraq, 1.22 EUR/hour in Syria, 1.80 EUR/hour in Bulgaria, and 2.54 EUR/hour in Turkey).

Humans in the Loop has implemented an overarching minimum payment of **3 EUR per hour** for any project and any annotator across its target countries.

Payments are usually processed on a per-unit basis (number of images annotated, etc.) but the price per unit is always estimated with this minimum in mind.



## Average payment per project

140 €

Bulgaria

110 €

Iraq

95 €

Turkey/Syria

The average worker in Bulgaria participated in more than 6 project throughout 2019, while workers in Iraq, Turkey and Syria took part in 2 projects on average. This is due to the fact that both organizations started working on HITL projects in mid-2019.



# Training



The training program of Humans in the Loop is focused on **building transferable skills** which can ensure that our annotators are able to perform their work well and secure other professional opportunities in the future.

In our partner countries, we are grateful that our partner NGOs already have well-established training programs in IT skills and microwork, so this section covers trainings we conduct in Bulgaria.

88

**People  
trained**

702

**Hours of  
training**

In January 2019, one of our biggest courses so far was completed, with 16 hours per week of trainings in **English and computer skills**, including 2 levels of English training (beginner and advanced), and modules for basic computer skills, Photoshop/UX Design, and IT/Excel. The 12-week course was volunteer-led and 25 people graduated from it.

Between March-June and September-December 2019, Humans in the Loop organized 3 exclusive technical trainings: two in **Photoshop and Graphic design** (6 hours per week), and another one in **Excel** (3 hours per week). Professional trainers were hired for these courses to offer more advanced training to the beneficiaries who had graduated from the previous courses. 19 people graduated successfully.

Lastly, between June 2019 and December 2019, we organized our largest training to date, with 12 hours per week of **English training** in 3 levels, based on feedback from participants that level separation needed to be more granular. The course lasted for a total of 28 weeks and was led by volunteers. 44 participants, 66% of whom were women, graduated successfully.



# Priority scoring

In 2019, as the annotation workforce of HITL was growing, we realized that we need clear rules about what annotators to prioritize in new projects and trainings. This is why we designed a vulnerability/priority scoring system which is currently being implemented for our annotators in Bulgaria. Through this system, we are able to provide new projects and opportunities in a **transparent way** to those who need them the most. The score is composed of the following parameters:

## Residency score



Asylum-seekers (residing in camps) - 4 points  
Refugees & humanitarian status holders - 3 points  
Foreigner permit holders - 2 points  
Citizens - 1 point

## Employment score



Unemployed individuals - 4 points  
Working part-time - 3 points  
Students - 2 points  
Employed full-time - 1 point



## Activity score



Active workers with project experience - 3 points  
Newly onboarded annotators - 2 points  
Semi-active workers (alumni) - 1 point

## Number of dependents



Annotators get one point for each family member who is economically dependent on them (children, etc.)



## Gender score



Women receive one additional priority point.

# Impact assessment

As part of assessing the work that HITL has done over 2019, we wanted to hear directly from our people about their experience with the enterprise. We therefore undertook a **Social Impact Assessment** in July 2020, led by Namrata Yadev. The assessment was conducted in conjunction with the research team of Professor Andreas Hackl, Lecturer in the Anthropology of Development at the School of Social and Political Science at the University of Edinburgh.

## Methodology

Our team conducted **semi-structured interviews** with **18 people** in our community from different regions over internet voice calls. The respondents represented a variety of profiles, including workers from different locations and with different levels of experience. One limitation of the assessment was that nine of the interviews had to be conducted in English and annotators with higher levels of English proficiency were selected, while the other 8 interviews were either in Arabic or in Arabic with translation to English.

These interviews are an insight not only into our work at Humans in the Loop but also into the inspiring journeys of refugees and displaced people and the challenges they face in securing their livelihoods and accessing employment. On the next pages you can find some of the most common themes.



# Challenges faced

## Difficulty in getting jobs

"Once they see my name, they know I am not Bulgarian and they do not give me the job"

- Iraqi refugee in Bulgaria

88 percent of our interviewees had a Bachelor's degree (note: this is considerably higher than the company-wide average of 40% and was likely due to the selection of annotators with higher levels of English).

The degrees included dental practice, banking finances, computer sciences, medical practice, business, engineering and journalism. 7 of our interviewees had professional experience before they were displaced.

But finding jobs in a new region is a difficult task and it has been for most of our employees. 9 out of 17 of our interviewees **struggled to find a job**. Foreign language, racism and scarcity of work were some of the reasons made aware to us by the interviewees.



## Language barrier

For many, the language barrier was a factor that prevented them from getting a job.

This was relevant not only to those who had moved to another country like Turkey or Bulgaria, but also those who had been internally displaced - 3 of the interviewees in Iraq were unable to find a job in Iraqi Kurdistan due to not speaking Kurdish.

In total 5 of our interviewees cited lack of language skills as a hindrance to finding a job.

"It is difficult to find a job because they want Kurdish speaking people and I am not good at it"  
- Iraqi citizen, internally displaced to Iraqi Kurdistan



## Electricity and internet connection

Seven of the interviewees, especially those residing in Iraq and Syria, mentioned that unreliable **internet connection** was a problem.

Frequent **power failures** and slow internet make it difficult for them to meet deadlines and there have been issues with them losing the work that they had completed.

## Equipment



Those annotators who work from home are reliant on their own computer equipment which may present an upfront cost to some annotators since a lot of projects require access through a desktop.

One of our interviewees who was internally displaced in Syria shared with us the issues he was facing when securing work. Very young and with seven people dependent on his income alone, he **could not afford purchasing good equipment**.

His computer does not have good specifications and this in addition to the frequent electricity cuts makes getting work done difficult.

## Irregularity of work and pay

Although many annotators appreciated the flexibility of the role (see on next page), many also mentioned that the irregularity of freelance work (and therefore pay) was a challenge.

83 percent of our interviewees were looking for other job opportunities because of the instability of annotation jobs.



## Changes in client requirements



A challenge cited by some annotators was the fact that instructions for labeling were sometimes changed in the middle of a project, which affected their motivation since they then had to redo work that had already been completed.

“My eyes are getting very tired because my laptop is old. I am even taking medicine twice a day now because of eye problems”  
- worker in Bulgaria

# Case study: Yamama

Yamama Najjar grew up in Aleppo and prior to the civil war she was enrolled at the University of Aleppo where she was studying Architecture. Unfortunately, she was unable to graduate because in 2011 her family took the decision to move to Bulgaria.



In Bulgaria, Yamama enrolled in the Technical University and began studying Industrial Engineering. In the meantime, she also began looking for a job which proved quite hard because it required her to be able to speak Bulgarian.

She enrolled in Bulgarian classes at Caritas and this is where she heard about HITL's pilot course in English and computer skills. She took part in it and thanks to her excellent performance she became one of the first full-time employees of the company in March 2018 - which was also her first formal job.

Yamama's interest in drawing, architecture, and art was a great factor in her annotation work and she was the supervisor for several complex semantic segmentation projects of satellite imagery.

**"In Graphic design courses, we studied Photoshop, Illustrator, and Adobe XD and it was a really great experience"**

She also participated in all of our Graphic Design courses, which tied perfectly with her interests. In March 2019, she completed her contract with HITL and went on to land a job as a Customer support agent with Arabic and English. She is planning to enroll in an Interior Design degree and she is determined to become a professional designer one day.

# Advantages ✨

## Flexible location

82 percent of the interviewees said that they prefer online work as it can be done from home. This is primarily due to the need for them to attend to other needs.

A single mother from Afghanistan shared that she had moved to Bulgaria for the security of her two children. With **childcare** as her utmost priority, finding a suitable job was tough until HITL became her first employer in Bulgaria.

Given the fact that HITL prioritizes single mothers with children, three out of the seventeen interviewees were single mothers, all of whom cited childcare as their topmost priority.



## Flexible schedule

Moreover, a work environment like HITL's, where one can work to their own schedule, was an advantage for **university students** who have to schedule work around their academic timetable.

5 of our interviewees are currently pursuing studies at University and they cited flexible hours as an important benefit.



## Safety

Working online has also provided people with the advantage of security.. Especially in areas where **commuting to work** might be a considerable challenge, working from home is appreciated for the safety it offers.

"My family is always worried about my safety as I am the youngest. Working online for HITL has made them comfortable with me working," said one annotator at WorkWell.

## Additional income

An annotator from Iraq mentions how working at HITL has helped her stabilise her **own enterprise**.

She runs a handmade jewellery making business and working at HITL has provided her with additional money to support her family. A small but considerable number of our annotators are **entrepreneurs** and we are happy to be supporting them.



## Leadership

Several of the interviewees who had worked as supervisors for HITL projects highlighted those experiences as very positive for them.

One supervisor from Syria shared: "My favorite project was the one I supervised. I was managing a team of 7 people. At first it was a bit challenging because they would not take me seriously, especially the boys, so I had to be strict. My friends would message me privately and ask me not to talk to them 'like a boss'. After a while we were able to **work as a team**. We would have meetings to discuss our next steps and how to address problems we faced etc."

## New opportunities

Another interviewee from Syria through our partnership with Roia highlighted the scarcity of work in the country and the competition among Syrians for the limited jobs available.

In that, HITL provides a new opportunity. Another interviewee from Iraq mentioned how data labelling is a new field to people in Iraq and therefore an **exciting opportunity**. "The idea of HITL's work is new in Iraq and more people are interested in doing it" they said.

"Everyone at HITL is my family and my time with them has taught me the importance of having friends."

- annotator in Bulgaria

## Community

All of our employees credit joining Humans in the Loop with making friends. This is especially important for newcomers in a country and we and our partners are conscious of providing spaces for the physical encounter and **interaction** of our annotators despite the remote nature of the work.

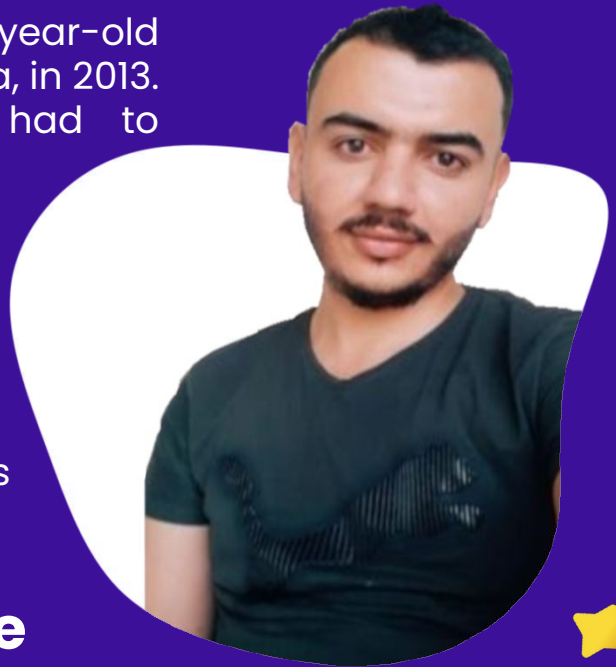


Perhaps the strongest indication of satisfaction with HITL's services was that 13 of the 17 people interviewed had told their friends about the work at HITL and recommended them to join. "When one of my friends is looking for work, I tell them about the projects I have done at HITL", said one interviewee.

# Case study: Shyar

Living in a refugee camp in Iraq, 22-year-old Shyar Qader moved out of Aleppo, Syria, in 2013. He was only 13 years old and had to quit secondary school as conditions got worse in his home country.

Soon, he let go of his childhood and had to take responsibility. He started working as a laborer and changed a couple of jobs before he stumbled on HITL through WorkWell's Microwork training program.



**With the money he made through his annotation work, he opened a mobile repair shop in the camp.**

Shyar was involved in four projects with HITL, and he was a top performer in each one of them. With his wage from these projects, he opened a mobile repair shop with a partner and fulfilled his long sought plan.

Talking about his life in the camp, he says "It is tough living in the camp but my job keeps me". He aims to open a laptop repair shop one day too. He seeks to learn English and advanced computer skills. In fact, he spends hours learning English through online videos.

Like other workers at HITL, he too is looking for other online freelance jobs. He mentions how he is the only breadwinner and it is tough to make ends meet but his spirit is full of zeal. Opening his repair shop has helped him financially and he hopes to get more annotation work from HITL.

# Way forward



The Impact Assessment of our work in 2019 has been of enormous value for us in order to trace a way forward which addresses common issues and scales what already works. In 2020, we have some exciting pilots planned in **Colombia** (with Venezuelan refugees) and in **Palestine** (with residents of the West Bank and Gaza).

We are developing a specialized team for **medical imagery annotation**, comprising of Syrian doctors residing in Turkey due to forced displacement. In 2020, the Roia Foundation is opening Syria's first **Annotation Hub** within their IT Center in Aleppo and we are proud to be a partner in it.

By employing a **Chief Impact Officer** and professional trainers, we aim to restructure our upskilling program and to design pathways for the future career development of our annotators. Finally, we will be implementing **AI trainings** in our programs in order to increase our workers' understanding of the computer vision industry and crucial issues such as bias and diversity.

We are excited about the way ahead and we are committed to continuously revisit our impact model together with our annotators. We are grateful for the opportunity to envision the future of work and to be building it alongside our partners and beneficiaries.

# Acknowledgement

In May 2019, Humans in the Loop was recognized as a Global Innovator by the Expo Live 2020 Dubai Innovation Impact Grant Programme.

As one of 120 grantees around the world, Humans in the Loop has received invaluable support by Expo Live, including a \$100,000 grant and the opportunity to participate in the World Expo in Dubai in 2021.

Without Expo Live's support, we would not be where we are today and we wholeheartedly thank them for believing in our model and mission.

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