

510



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What we do

Key thematic areas, products and services

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Sander Houston & Willemijn Staal

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Who we are: about 510

What we do: Key thematic areas

Products and services

- Anticipatory Action
- Cash & Voucher Assistance
- Community Engagement & Accountability
- Digital Transformation
- Emergency Support
- Water & Landscape

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**Who we are:
About 510**

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510: The Netherlands Red Cross' Data & Digital initiative

510 is the data and digital initiative of the Netherlands Red Cross. Named after the total surface area of the earth (510 million square kilometers), 510 aims to help every National Red Cross and Red Crescent Society in need. 510's purpose is to improve the speed, quality and cost-effectiveness of humanitarian aid by creating products and services, using data and digital tools. 510 started in March 2016 with a core team of three people and never stopped growing. Currently, 510 has 92 team members of whom 52 are professional volunteers.



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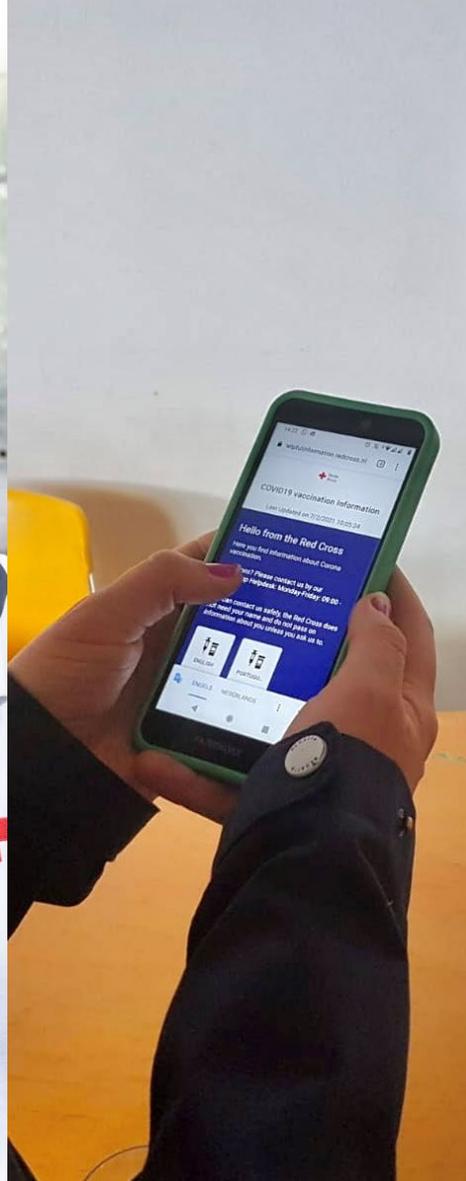
What we do: Key thematic areas



Anticipatory
Action



Cash & Voucher
Assistance



Community
Engagement &
Accountability



Digital
Transformation



Emergency
Support



Water &
Landscape

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Our products & services

Anticipatory Action

Cash & Voucher Assistance

Community Engagement & Accountability

Digital Transformation

Emergency Support

Water & Landscape

Services :

- Trigger Development
- Early Action Protocol Development

- Cash Information Management

- Digital CEA

- Digital Maturity Assessment
- Data Literacy
- Data & Digital Capacity building
- Data & Digital Responsibility

- SIMS Support
- Missing Maps
- Surge Deployment

- Hotspot Mapping
- Water Security
- Reforestation support

Products :

CRA Community Risk Assessment
IBF Portal

121
Platform

HIA Helpful Information App
SML Social Media Listening
DEH Digital Engagement Hub

+C **DATA**
IFRC **PLAY**
BOOK

ADA
Automatic Damage Assessment

LRT
Landscape Restoration Tool

Proposal & Thematic Management

Marc van den Homberg
mvandenhomberg@redcross.nl

Lars Stevens
lstevens@redcross.nl

Jonath Lijftogt
jlijftogt@redcross.nl

Liselot Kattemölle
lkattemolle@redcross.nl

Jacopo Margutti
jmargutti@redcross.nl

Marijke Panis
mpanis@redcross.nl

Aklilu Teklesadik
ateklesadik@redcross.nl

Fernando Suarez Jimenez
fsuarezjimenez@redcross.nl

Heleen Elenbaas
helenbaas@redcross.nl

Coordination & Line Management

510 Team Lead

Maarten van der Veen
mvanderveen@redcross.nl

Data Team Lead

Marijke Panis
mpanis@redcross.nl

Digital Team Lead

Richard Lines
rlines@redcross.nl

Operations Lead

Lars Stevens
lstevens@redcross.nl

Research Lead

Marc van den Homberg
mvandenhomberg@redcross.nl



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Anticipatory Action



Thematic coordinators: Marc van den Homberg 

Aklilu Teklesadik 

Anticipatory Action

Turning forecasts and warnings from descriptions of what the weather will be into assessments of what the weather will do enables organizations and individuals across the world to anticipate and take action to mitigate the impacts brought by weather and climate events.

Releasing funds to vulnerable communities and individuals ahead of potentially devastating weather or climate events, enables anticipatory actions that save lives, livelihoods and property. 510 provides data and digital support towards the development of impact-based forecasting for floods, typhoons and droughts.

Impact Based Forecasting (IBF) is a process of collecting and integrating data to predict the impact of impending disasters on vulnerable people living in areas prone to these disasters. IBF enables anticipatory actions and revolutionizes the response to extreme weather and climate crises.



Products/Services

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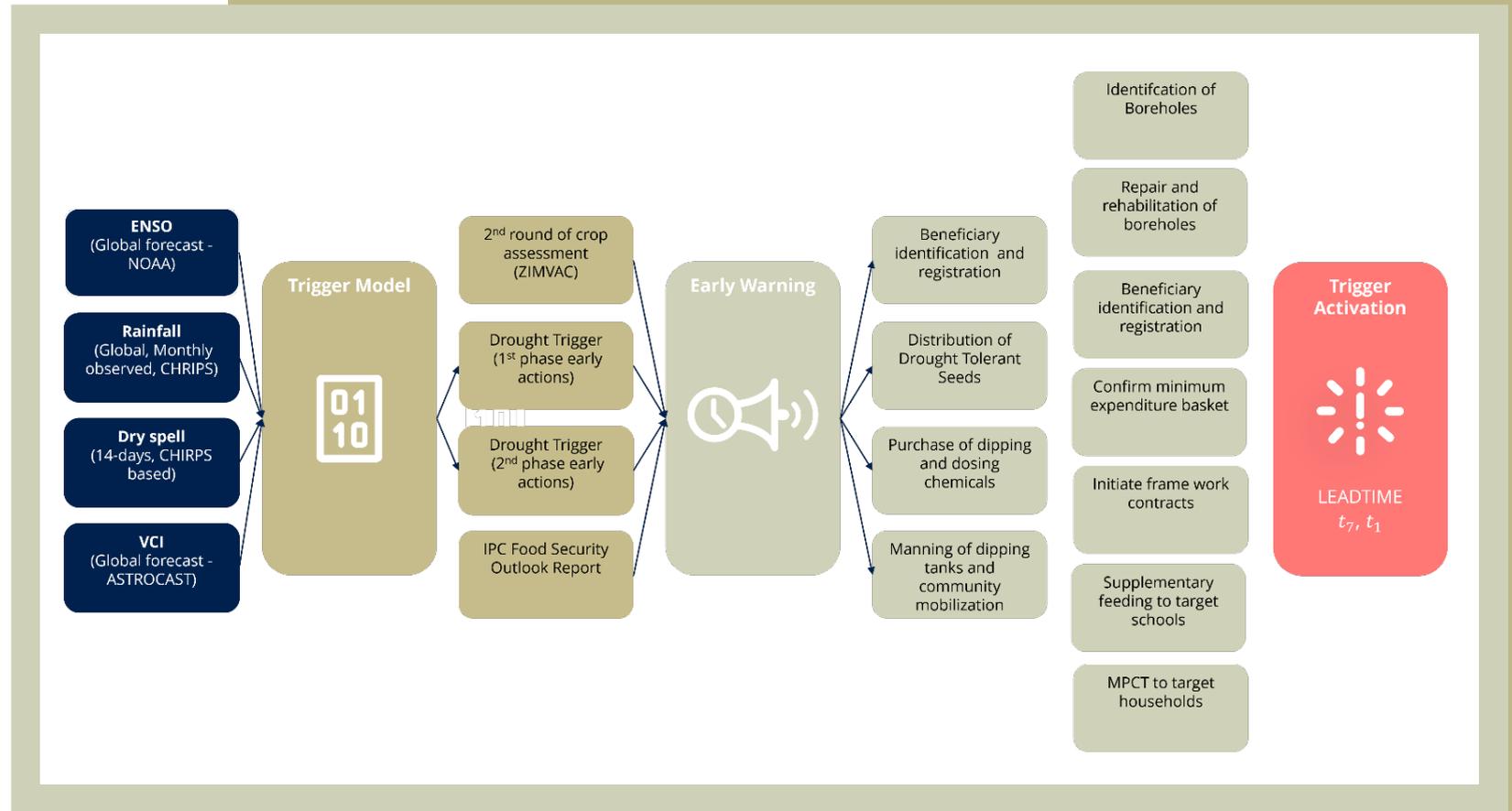
- **Trigger Development**
- **Early Action Protocol Development**
- **Community Risk Assessment**
- **Impact Based Forecasting Portal**

Trigger Development

Impact-Based Forecasting (IBF) trigger models are used to trigger humanitarian anticipatory Early Action Protocols (EAPs). So far, we have built models that trigger EAPs for typhoon, flood, dzud, drought and dengue hazards.

The Typhoon Trigger Model for instance was developed by 510 on behalf of the International Federation of Red Cross and Red Crescent Societies (IFRC) network and its partners, and uses typhoon track and rainfall forecasts to predict the percentage of houses that will be severely damaged per municipality.

The prediction of the model is then used to activate humanitarian anticipatory EAPs which aim to mitigate, and to a certain extent prevent, the humanitarian impact of typhoons on people's homes and livelihoods, while building on governments' mandatory pre-emptive evacuation procedures that save lives. With the intervention of EAPs, the most at-risk communities will be provided financial resources to prepare prior to a typhoon making landfall. In the Philippines, multi-sectoral assistance is delivered by UN agencies, NGOs and the Red Cross Red Crescent Movement in close collaboration with local authorities.



IBF Drought Trigger Model inputs in relation to the IBF Trigger timeline

Early Action Protocol Development

An Early Action Protocol (EAP) aims to mitigate the impact of predicted events such as typhoons, floods or droughts by enabling the release of funding to execute pre-agreed early action before the event (a mechanism called Forecast-Based Financing). 510 can help set up EAPs together with National Societies.

The IBF Portal visualizes and disseminates information that supports the operational decision making of disaster managers. A trigger model, which is used in the portal, is developed to determine at what threshold the EAP should be activated.

The EAP is developed collaboratively with all organizations and communities involved to decide on what appropriate anticipatory action to undertake.



CRA Community Risk Assessment

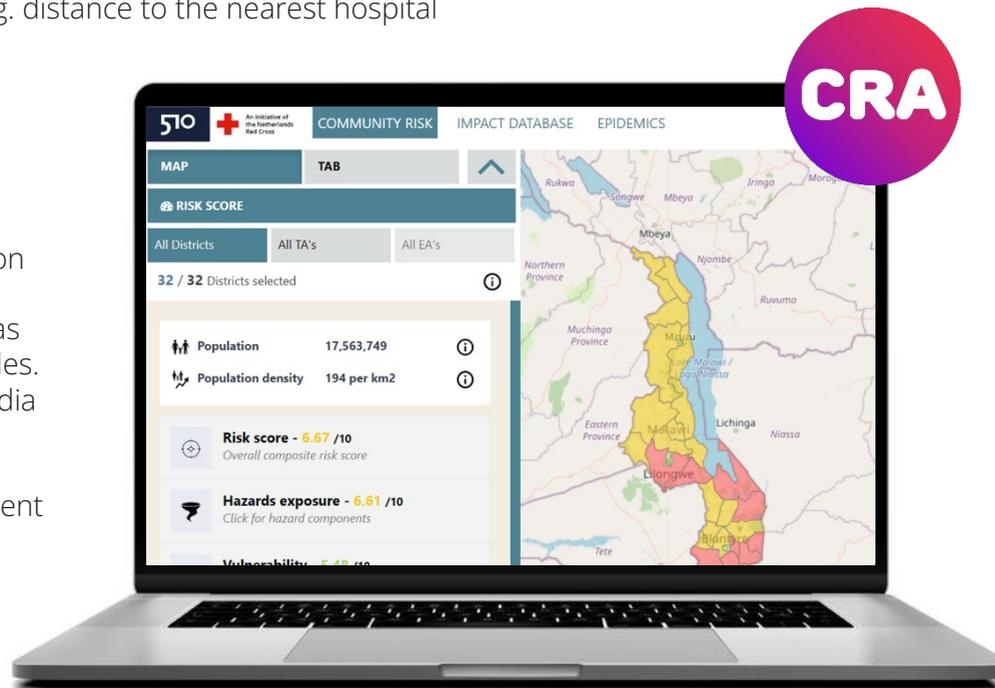
Community Risk Assessment (CRA) is a dashboard that identifies and predicts the geographic areas that are most affected by a disaster. We build a dashboard that contains integrated data from many sources separated on all admin levels.

We collect and integrate all relevant pre-disaster data sources on a detailed geographical level, focusing on indicators inspired by the INFORM risk-framework which contains three main components:

1. Long-term Hazard Risk (based on historical events): e.g. flood and drought risk
2. Vulnerability: e.g. poverty
3. Lack of Coping Capacity: e.g. distance to the nearest hospital

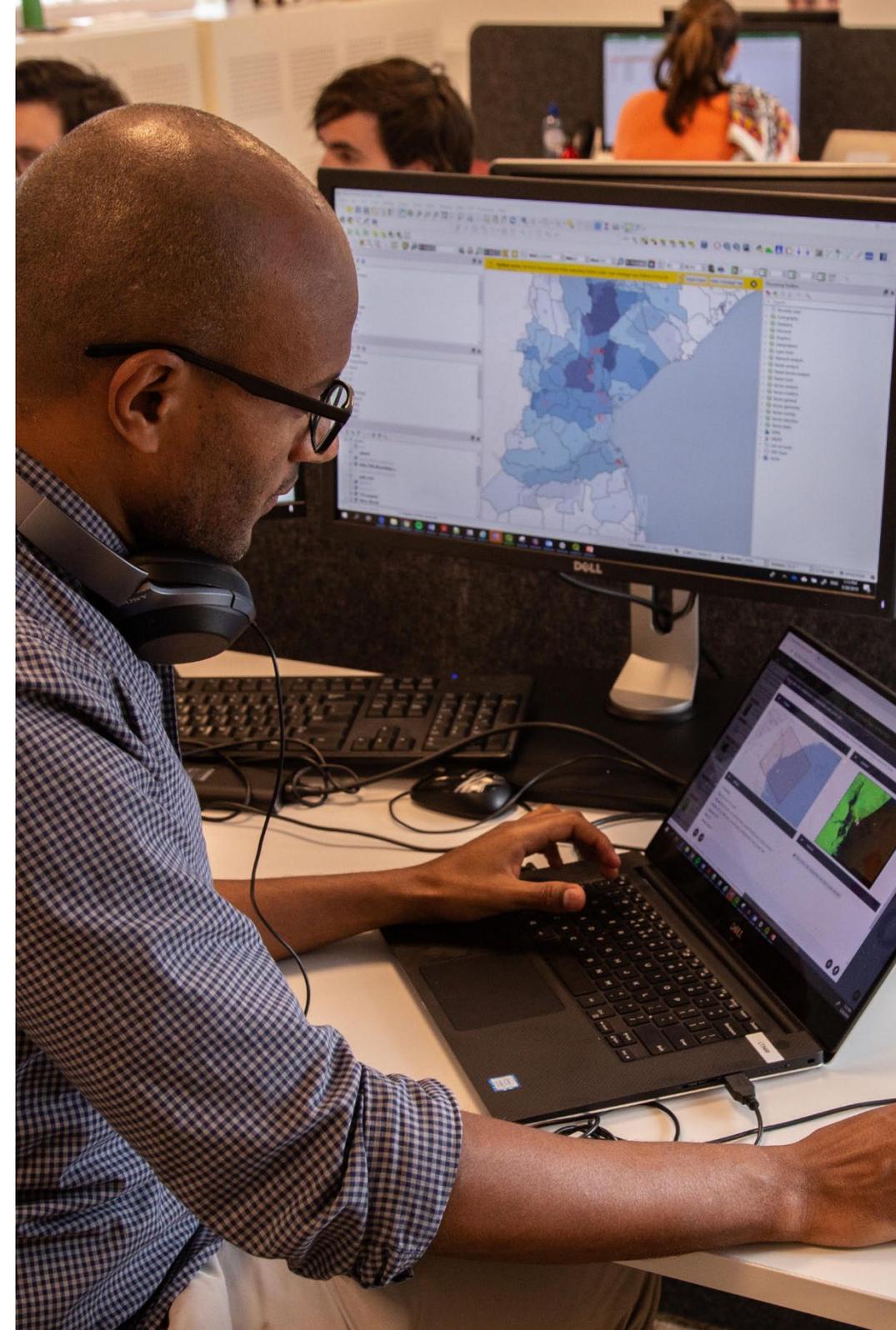
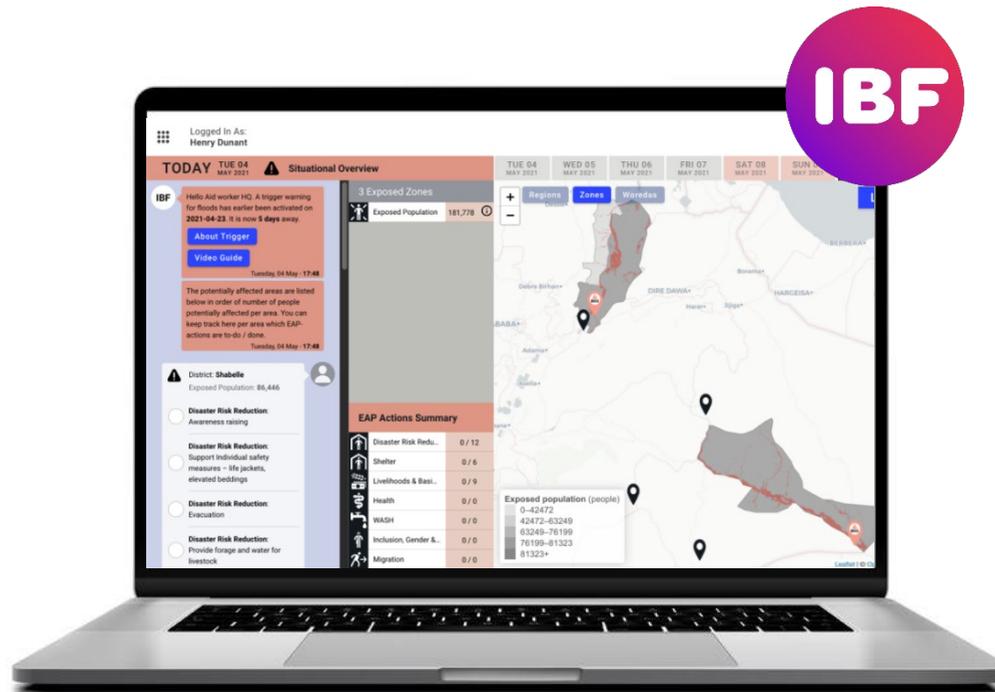
Having all this data readily available and easily accessible before a disaster strikes can save a lot of time

510 collects and collates data on impact indicators using global, national, and local databases, as well as in-country data scrambles. Text mining of online news media enriches this data, fused with hazard data, for trigger model development and risk assessment validation.



IBF Portal

Together with National Red Cross and Red Crescent Societies and other partners, 510 co-developed the **Impact-Based Forecasting Portal (IBF Portal): a digital one-stop-shop of information which supports the decision-making of disaster managers during anticipatory action operations. The IBF Portal displays information on the impact of an incoming disaster at the right time for decisionmakers to be able to act and execute pre-agreed early actions.** The IBF Portal is built upon insights from more than 160 co-design sessions with disaster managers and operational personnel in the Red Cross Red Crescent Movement, governmental and civil society stakeholders, as well as input from knowledge institutions and other humanitarian organizations.



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Cash & Voucher Assistance



Cash & Voucher Assistance

Cash & Voucher Assistance (CVA) is the provision of cash transfers or vouchers, when appropriate, for the affected population to decide how to meet their own needs using available local resources. It restores people's autonomy and helps to rebuild the local economy.

The International Disaster Database recorded a steady increase in the frequency of disasters over the past 35 years. As a result, the number of people affected by humanitarian crises has almost doubled over the past 10 years, whilst the cost of humanitarian assistance has tripled. For this reason, the humanitarian world is undergoing a transformation in the way that aid is delivered. This transformation goes hand in hand with the humanitarian principles of impartiality, neutrality and independence.

Assistance must always reach the most vulnerable. An effective way to support people affected by disasters is through a combination of Cash & Voucher Assistance and Forecast-based Financing (FbF). FbF allows for both decisionmakers, and people affected to better prepare for and cope with disasters and thus reduce needs when disaster strikes. Cash & Voucher Assistance offers a more efficient and dignified means to deliver assistance, empowers people in need and fosters local economies.



Products/Services

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- Cash Information Management
- 121 Platform

Cash Information Management

National Societies are increasingly using Cash & Voucher Assistance (CVA) to provide aid to people in need effectively and efficiently. The IFRC has committed to delivering cash and vouchers in 50% of humanitarian assistance by 2025. **Cash projects request a large amount of data from registration to data sharing with financial service providers, post-distribution monitoring, community engagement, project evaluations and reporting. The 510 Cash Information Management service specializes in helping to collect, analyze, clean, securely store, visualize, manage and share data.** Our team consists of people with different experiences to make sure we can help National Societies in the best way we can.



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121 Platform

The aim of the 121 Platform is to make Cash & Voucher Assistance (CVA) easier, safer and faster, and to help people affected by disasters meet their own needs. This solution includes a portal to assist humanitarian organizations in running a safe CVA program, using apps for affected populations and aid workers.

Person Affected App



Aid Worker App



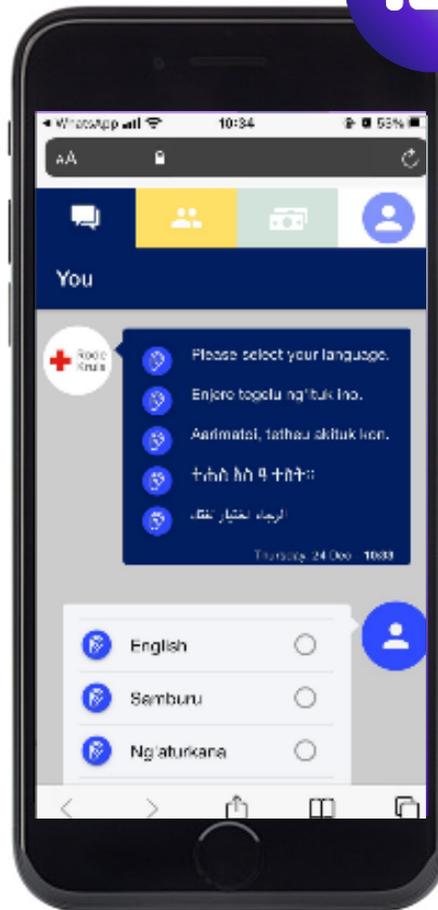
121 Portal



Person Affected App

The Person Affected App allows for easy registration from any location at any time. It was co-designed with people affected by disasters around the world, asking them about their experience of before, during and after receiving aid.

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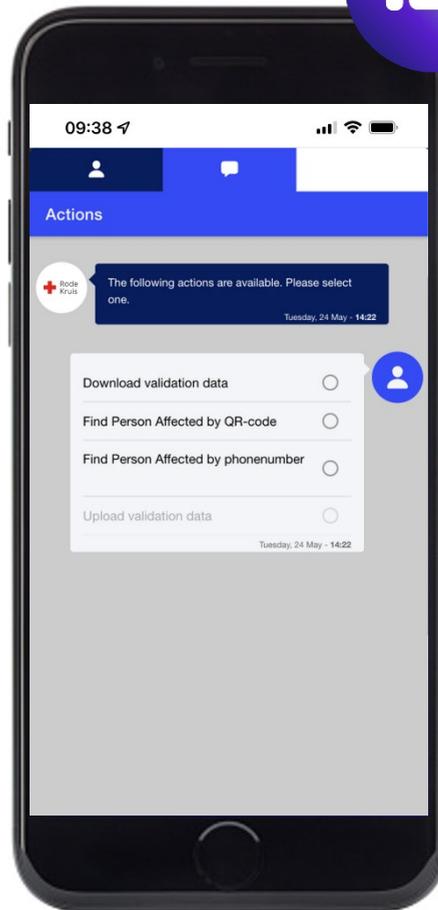


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Aid Worker App

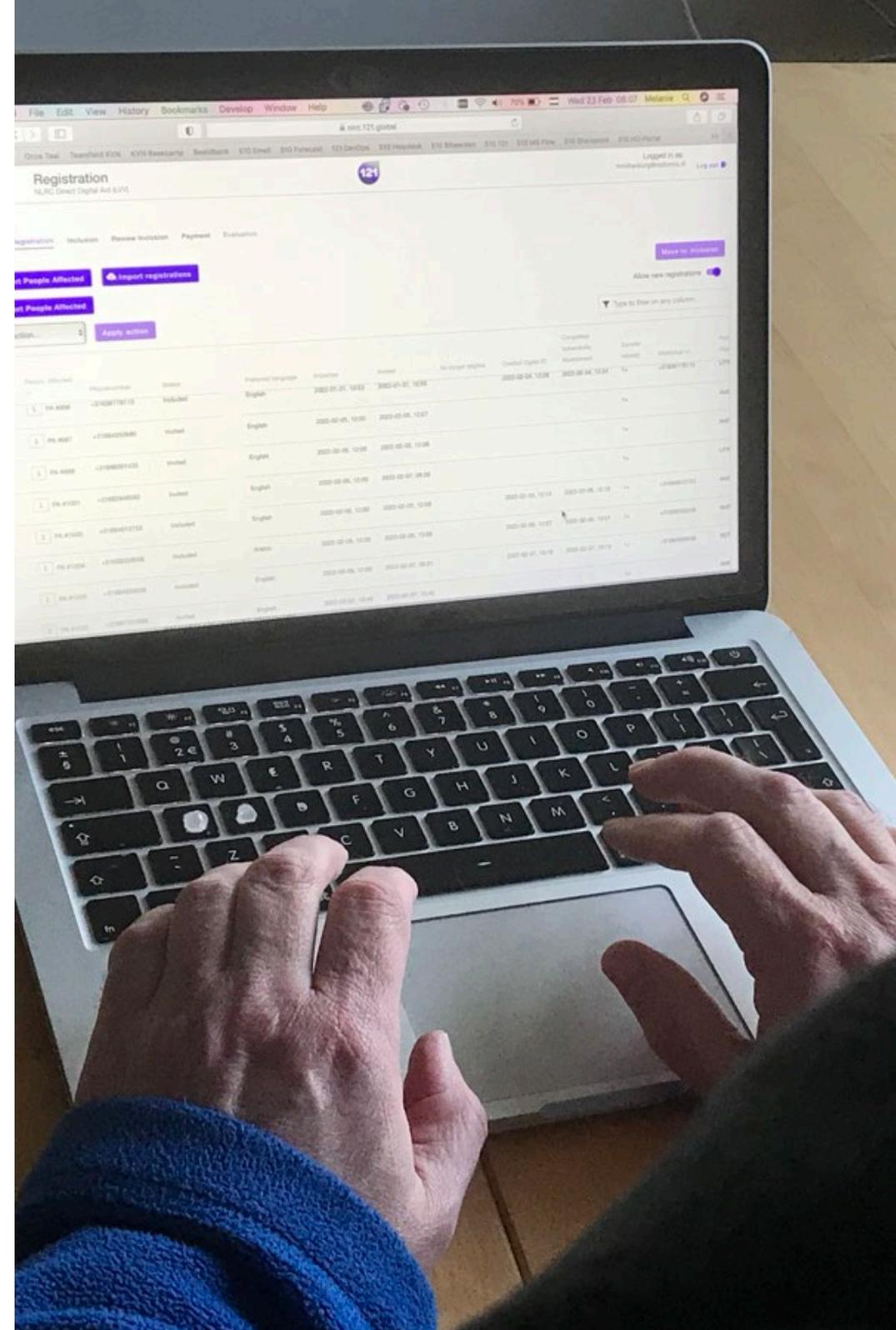
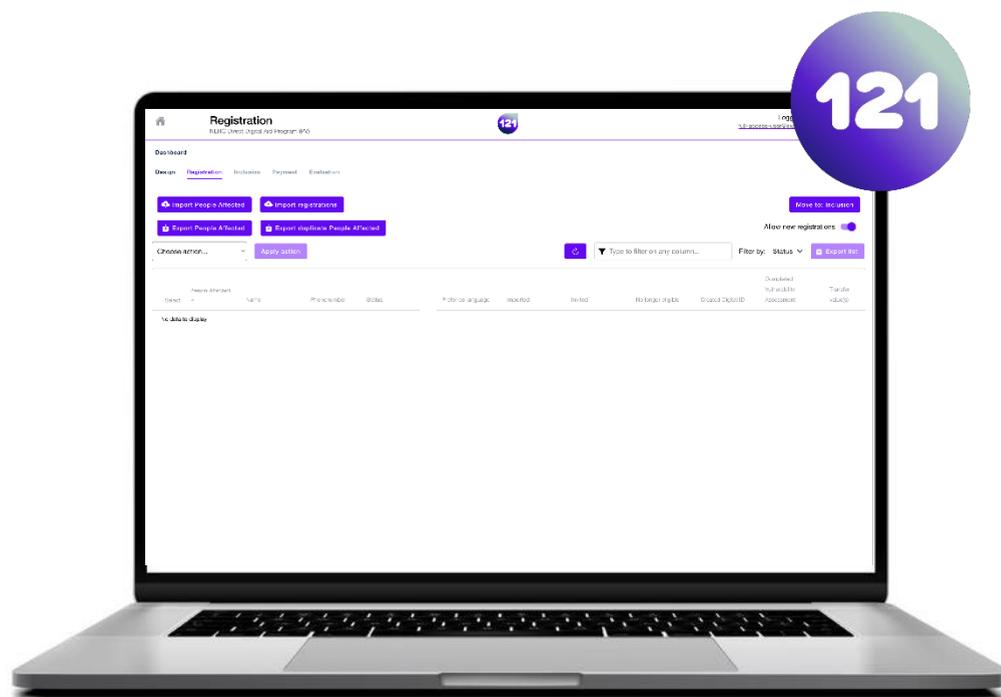
The Aid Worker App allows aid workers in the field to easily **validate registrations**. The app helps to reduce duplication, increase efficiency and handle data responsibly.

121



121 Portal

The 121 Portal makes it easy to manage Cash & Voucher Assistance (CVA) Programs. The product helps project managers by increasing efficiency in setting up and executing a cash program Information Management (IM) system. It creates an overview with real-time updates on: registration / validation / inclusion / review inclusion / payments / monitoring and evaluation. In addition, it has a familiar setup with real-time traceability and a dashboard, enabling efficient coordination and security through a privacy by design system. Furthermore, it reduces the time taken to work in many different documents.





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Community Engagement & Accountability

+CIFRC

Thematic coordinator: Jonath Lijftogt



Community Engagement & Accountability

Community Engagement & Accountability (CEA) is a way of working that recognizes and values all community members as equal partners whose diverse needs, priorities and preferences guide everything the Red Cross Red Crescent does. **This is achieved by integrating meaningful community participation, open and honest communication and mechanisms to listen to and act on feedback data** within programs and operations.

The COVID-19 crisis has accelerated the need for digital ways of reaching communities with lifesaving information, of better understanding their needs and of receiving their feedback.

510 designs and develops products and services to support this need, and helps National Societies and their partners in having meaningful and scalable engagement with the communities they serve.



Products/Services

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- Digital CEA
- Digital Engagement Hub (DEH)
- Social Media Listening (SML)
- Helpful Information as Aid (HIA)

Digital CEA

The IFRC Strategy 2030 calls for an urgent shift of leadership and decision-making to the most local level – placing local communities at the very centre of change so that actions are effective, inclusive and sustainable. **Achieving this will require the IFRC and National Societies to adopt a more systematic, consistent and high-quality approach to engaging with and being accountable to communities.**

With Digital CEA as a service, 510 supports this process. Our CEA team helps with writing CEA strategies that integrate (digital) feedback mechanisms and two-way communication tools into National Society guidelines and plans; we help with leveraging CEA data and evidence for decision-making by implementing (digital) products and processes that allow for more systemic collection, analysis, visualization and sharing of feedback data; and we work on improving the quality of the engagement itself.



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SML Social Media Listening

With the Social Media Listening tool, we pull data from instant messaging platforms (such as Telegram or Twitter) to see what people affected by a disaster or crisis think and say about their situation, what they need and how they interact with humanitarian organizations.

Combining quantitative and qualitative data and identifying key insights and trends from these conversations helps mitigate risks and helps the IFRC and National Societies define, implement and improve (CEA) activities, programs and information campaigns.



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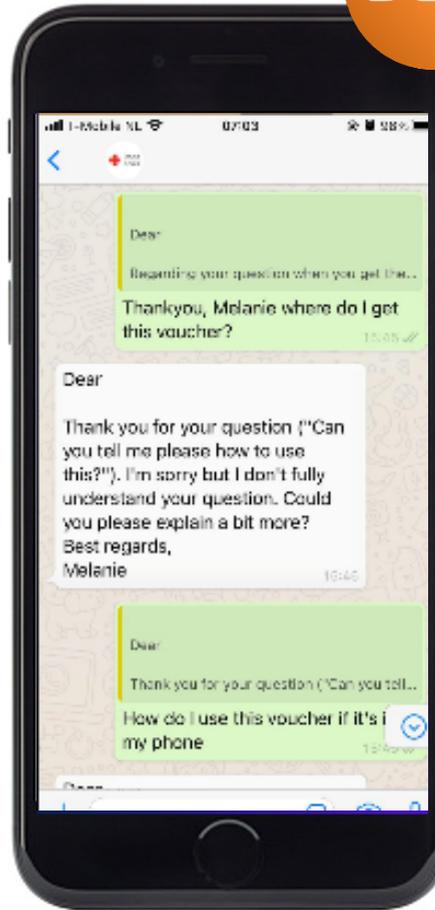
DEH Digital Engagement Hub

The Digital Engagement Hub is a collaboration between the IFRC, the Norwegian Refugee Council, 510, a number of National Societies and several other partners.

The goal of the Digital Engagement Hub is to increase and improve local and scalable engagement and accountability by facilitating multi-channel communication between humanitarian actors and people affected by disasters and crises.

We design, configure and build a standardized technological solution that is replicable and supported across the IFRC network and that provides actionable insights into feedback from people affected.

DEH



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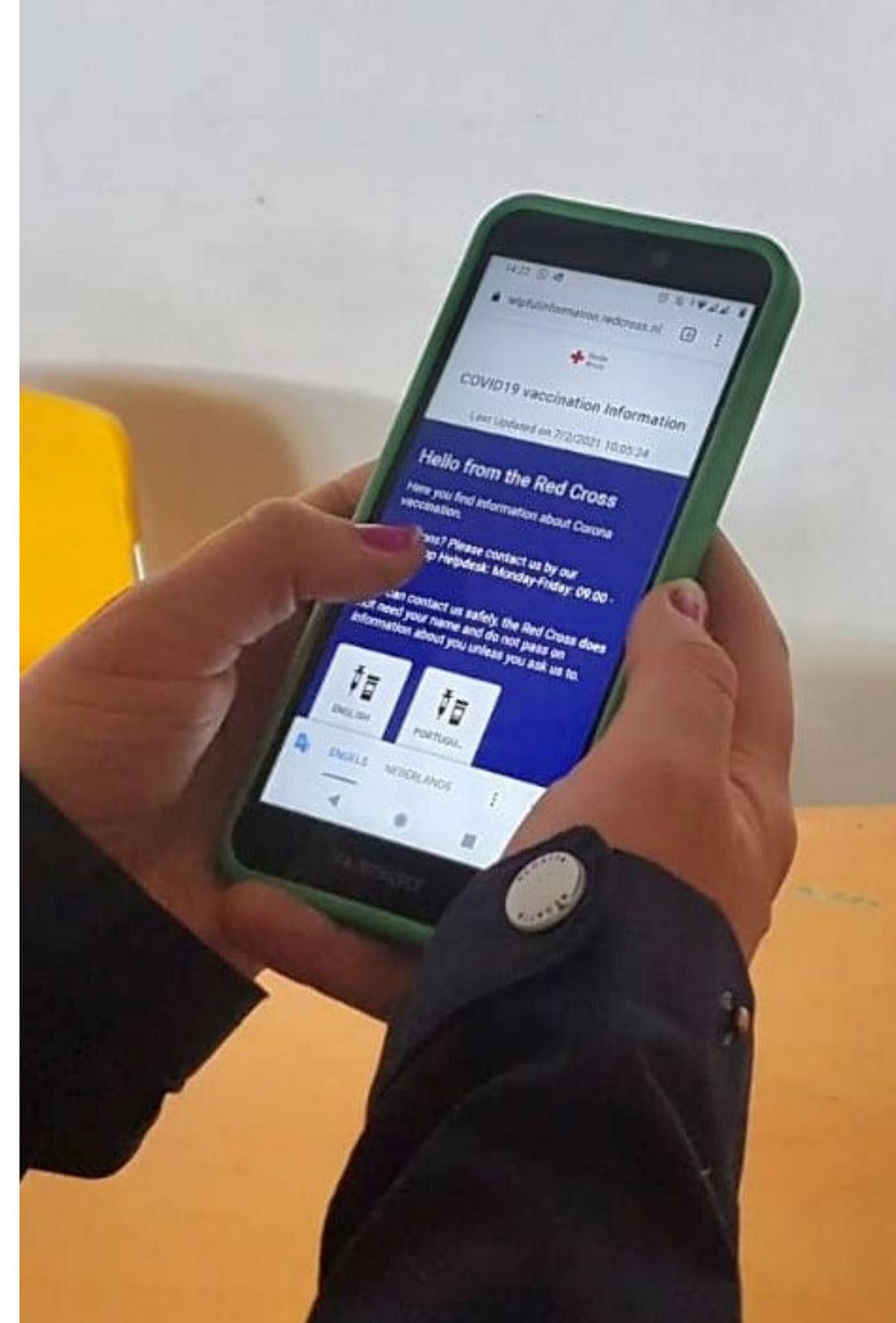
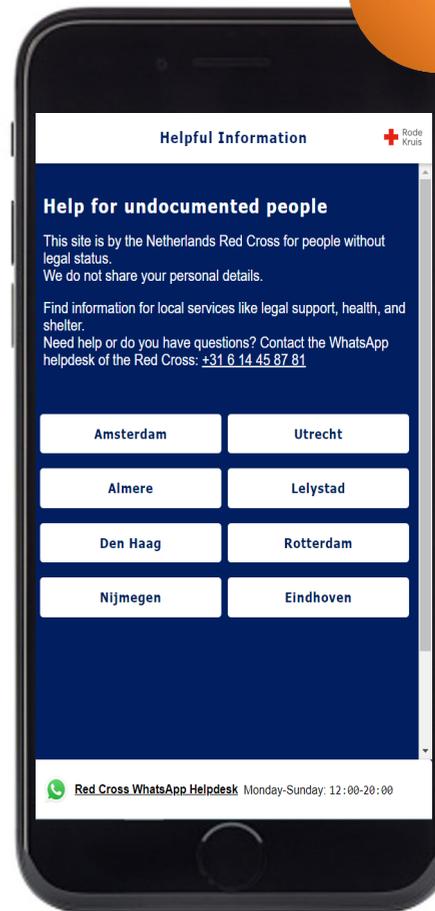
HIA Helpful Information as Aid

The Helpful Information as Aid web-App (HIA) is a source of information for people affected by disasters or crises. It provides information about services that the Red Cross Red Crescent movement or other (local) aid organizations offer and/or provides answers to frequently asked questions.

HIA is easy to deploy, even without pre-existing infrastructure; the content is managed in a Google sheet, so that there are no technical skills needed to update the information; and it is very low cost.

In 2019, the first HIA product was designed with and for undocumented migrants living in the Netherlands. Since then, there have been multiple instances in different countries, for different target groups and in different emergency or program contexts. In some cases, the main target group is people affected themselves, whereas in other cases the main target group is Red Cross/Red Crescent staff and volunteers who directly communicate with people affected through digital channels (i.e., a WhatsApp helpdesk) or at physical locations (i.e., a Humanitarian Service Point).

HIA



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Digital Transformation



Digital Transformation

Digital Transformation aims to improve humanitarian services delivered by National Societies to people in need. The IFRC network encourages National Societies to move from paper-based practices to system-level change through a shared digital maturity model, competency networks, and external partner engagement. 510 has been involved in the consultation process and implementation, helping lay the groundwork for a standard approach and leading a pilot to test digital transformation assessments in Uganda, Kenya, Ivory Coast, Norway, and the Philippines. The team developed a digital maturity QuickScan, data literacy tools, and data literacy trainings to help National Societies understand their strengths and opportunities for digital transformation.



Products/Services

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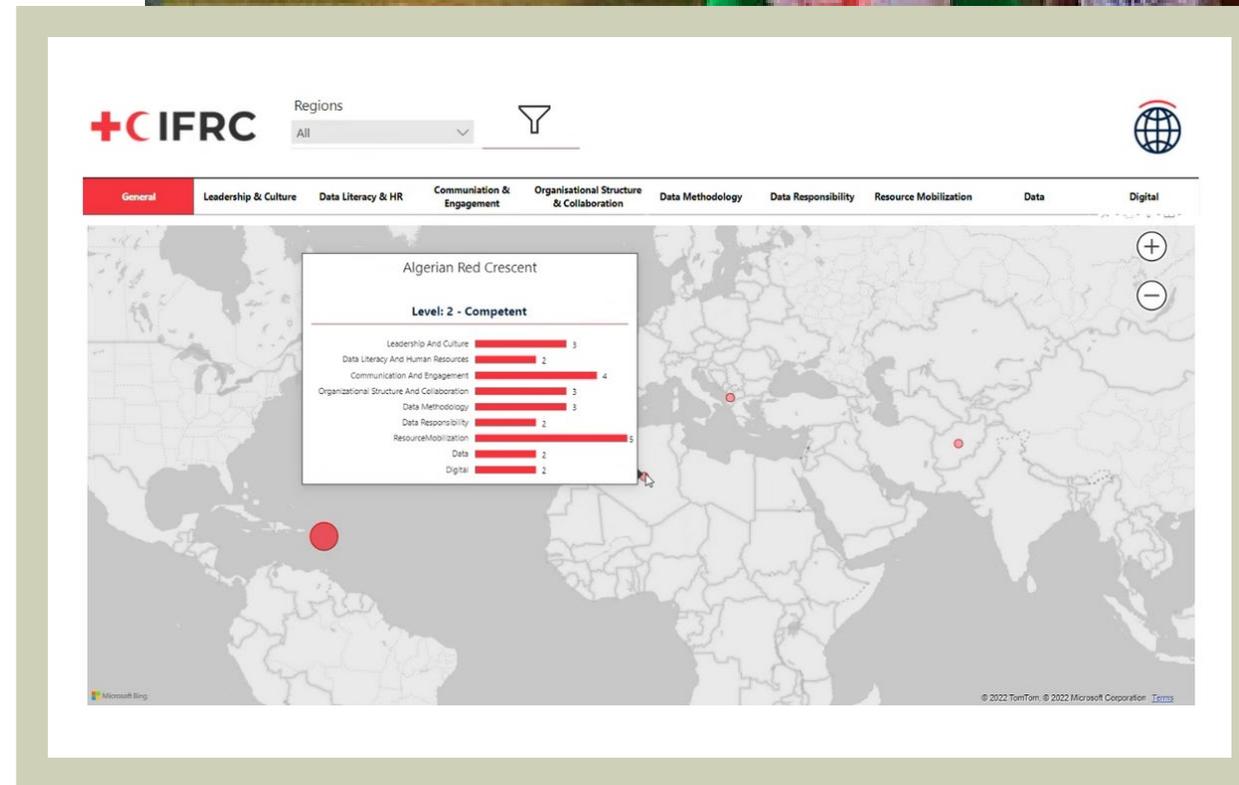
- Digital Maturity Assessment
- Data Literacy
- Data & Digital Capacity Building
- Data & Digital Responsibility
- IFRC Data Playbook

Digital Maturity Assessment

Digital Transformation is about people, processes and technology. 510 supports National Societies in mapping where they are at across these domains, where they want to go to, and how to get there.

The Digital Maturity Assessment is based on a digital maturity framework which was developed by 510 in collaboration with a private sector partner and is integrated as key pillar of the IFRC's digital transformation strategy. 510 can support your National Society's digital maturity assessments by:

- Facilitating a QuickScan which consists of a survey and a group-interview, and provides a high-level overview of where the National Society currently sits on the digital maturity spectrum and where it could possibly go to.
- Co-facilitating a full Digital Transformation Assessment which consists of in-person focus group sessions with a broad group of National Society representatives to develop a local roadmap towards digital transformation.



Data Literacy

510 believes that data literacy is foundational to achieving digital transformation. Therefore, 510 offers data literacy trainings to staff and volunteers of RCRC national societies.

Our approach combines hands-on coaching and training during projects and disaster phases, along with immersive learning experiences. Our programs are flexible and tailored to National Society's needs — whether they are building new skills and procedures within daily activities, or actively building a data culture.

510 is a key contributor to IFRC's Data Playbook and is currently developing an IFRC-wide data and digital literacy curriculum tailored to National Societies at various levels of digital maturity.



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Data & Digital Capacity Building

510 supports National Societies in building data and digital capacity to ensure that data and digital solutions are integrated in humanitarian services and sustained beyond project cycles.

Our digital transformation advisors work with National Societies to develop investment plans to ensure resources are available to implement digital transformation.



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Data & Digital Responsibility

Data and digital technology can help us serve those in need better, faster and in a more cost-effective manner. When used irresponsibly or incorrectly, data and digital technology can also cause harm. **Our data & digital responsibility policy addresses the responsible processing of data with respect to ethical standards and in principles in the humanitarian context.** It bears in mind potential consequences and taking measures to avoid putting individuals or communities at risk.

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Data & Digital Responsibility Policy

Going beyond privacy

Version 3



DATA
PLAY
BOOK

Data Playbook

National Red Cross and Red Crescent Societies are providing humanitarian services to people affected. Some of the common global challenges and main trends are recognized in the IFRC's Strategy 2030. Going through a digital transformation will help National Societies to achieve their goals, by providing increasing speed, quality, effectiveness, accountability and transparency of their humanitarian services.

The Data Playbook can facilitate this process by means of its adaptable design for teams and programmatic work across the data lifecycle.

The Data Playbook contains 120 exercises, games, scenarios, slides and checklists to assist National Societies on their data journey.

The social learning content is designed for teams to have open discussions and interactive activities around data in short 30 minute to 1 hour sessions.



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Emergency Support



Thematic coordinators: **Jacopo Margutti** ✉

Heleen Elenbaas ✉

Emergency Support

510 prioritizes disaster response, which we support with several dedicated products and services. Our goal is to provide disaster managers with the most relevant and timely information to plan response operations, so that interventions are evidence-based, resources are optimally allocated, and the different humanitarian actors on the ground can effectively coordinate with each other. We provide emergency support both as part of the IFRC-led Surge Information Management Support (SIMS) network and bilaterally, in response to smaller scale disasters.



Products/Services

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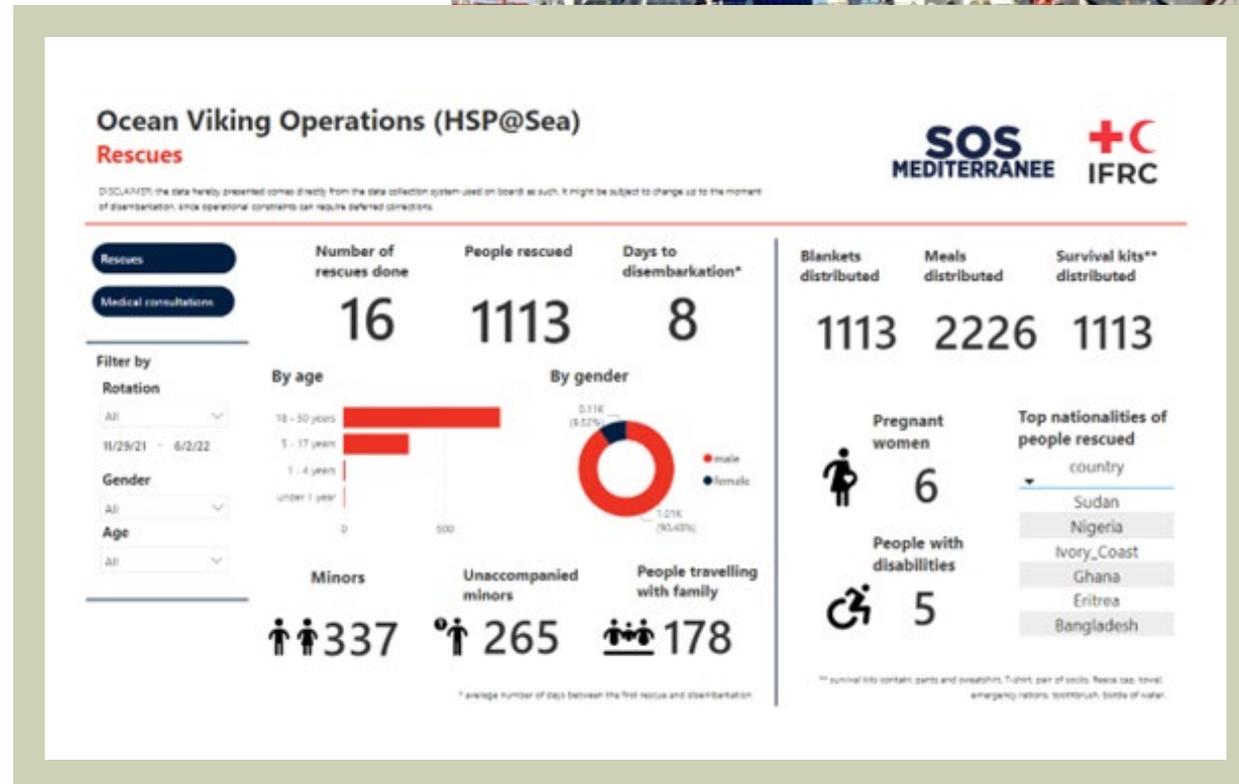
- Surge Information Management
- Surge Deployment
- Automated Damage Assessment (ADA)

Surge Information Management

When a disaster occurs, information is key for aid workers on the ground to take evidence-based decisions. Collecting, managing, and visualizing data is time consuming and often requires connectivity and tools that may not be available on the ground.

Surge Information Management Support (SIMS) provides remote assistance to operations with information products and data analysis. In addition, SIMS also serves as a network for information management coordination and capacity building, helping to improve information management standards, tools, and expertise across response operations.

SIMS is an IFRC-led network of trained specialists who develop, coordinate and implement information management systems for global Red Cross and Red Crescent disaster response operations. When a disaster occurs, SIMS is activated through the IFRC Disaster Crisis Management Surge Desk. **510 brings data experts to the SIMS network**, helping operations leverage the power of mapping, data management and visualization tools to support decision making and enhance reporting. This includes the use of predictive analytics, as well as analysing disaster impact with satellite imagery.



Surge Deployment

510 often supports emergency operations by deploying full-time personnel either directly into areas affected by the disaster or remotely. We cover roles centered on information management, applied to different sectors: cash, relief, shelter, WASH, needs assessment, etc.

As of June 2023, 510 covered 24 deployments in emergencies over the last 4 years, of which 8 over the last year alone. Mostly these are in-country positions, but we also support remotely, if needed.

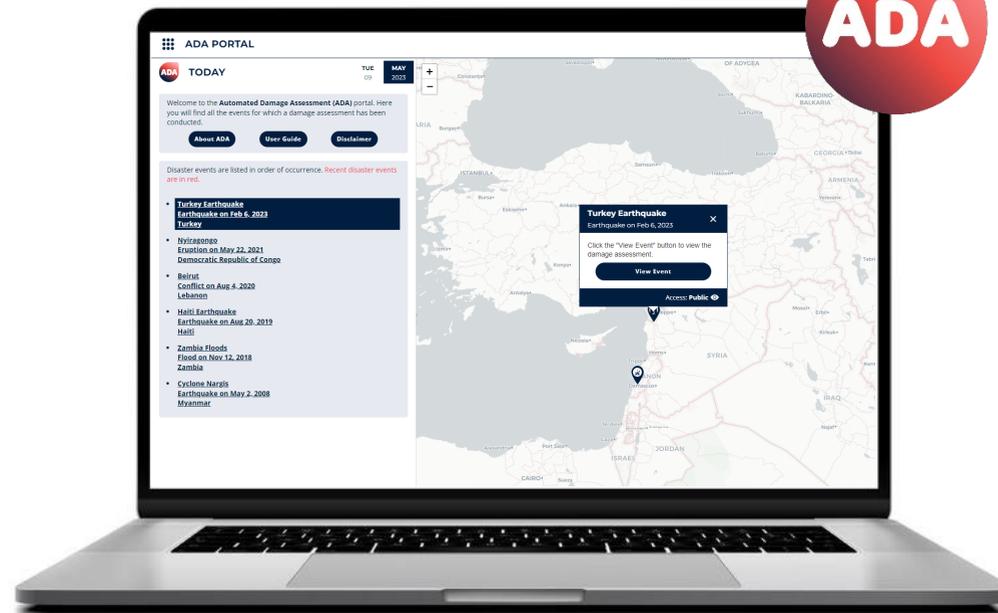
The experiences of our team members who participate in surge deployments are of crucial importance to ensure that 510's products and services are fit for emergencies, since they help us understand the constraints, perspective and objectives of operations.



Automated Damage Assessment

When a disaster occurs, it is important to know as soon as possible how many people are affected, where they live, and the severity of the damage, to properly plan response operations.

The Automated Damage Assessment tool (ADA) is a deep learning model that identifies damaged buildings in satellite images after a disaster has happened. Automating this assessment makes it faster and far less dependent on human effort, therefore enabling 510 to quickly deliver the information that is needed. The assessment time decreases from weeks to hours, which makes a difference in the speed of operations and, ultimately, on the number of lives that can be saved.



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Water & Landscape

DSS water

Thematic coordinators: Marijke Panis 

Water & Landscape

The IFRC aims to protect nature and lives, and to work with nature to reduce disaster risk. The IFRC is also at the forefront of responding to global water, sanitation and hygiene (WASH) needs. **510 works on Water and Landscape projects through Water Security and Reforestation Support while rapidly expanding its portfolio.**



Products/Services

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- Water Security
- Landscape Restoration Tool (LRT)

Water Security

Climate change has affected the water cycle in various magnitudes, leading to plenty of water-related hazards and affecting millions of people globally. In large parts of the world, a shortage of water causes major problems, such as food shortages because of droughts. In other places, too much water causes great disturbance due to flooding.

Together with National Societies, 510 analyzes different water-related data to understand climate events and use it as guidance to reduce their impact on people's lives. Data about water not only relates to mitigating droughts and flooding but also includes Water, Sanitation and Hygiene (WASH)-related topics. WASH programs are a combination of hardware elements, such as providing safe water and latrines, and software elements, such as hygiene promotion. The data is gathered for instance on locations of water pumps, water critical infrastructures, and urban WASH and drainage design.



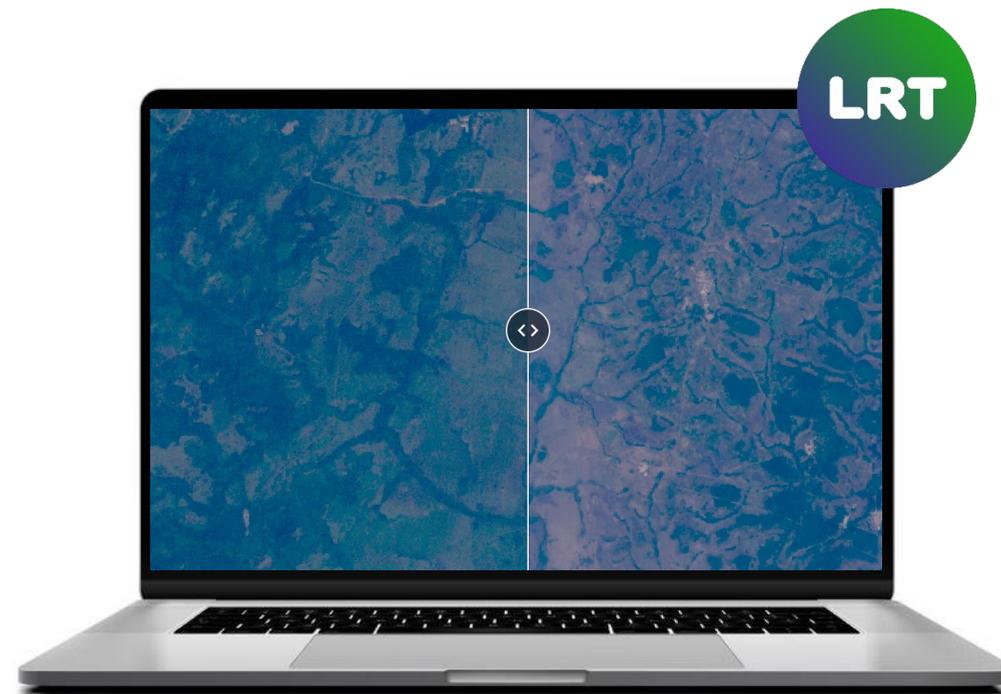
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Landscape Restoration Tool

Degraded landscape has an immense influence on the ecological, economic and social state of a region. Therefore, efforts to improve the state of landscape will not only yield a healthier nature but can also bring new opportunities, financial capital, and security to communities. **The Landscape Restoration Tool allows for an easy comparison of satellite images of the same region from two moments in time.**



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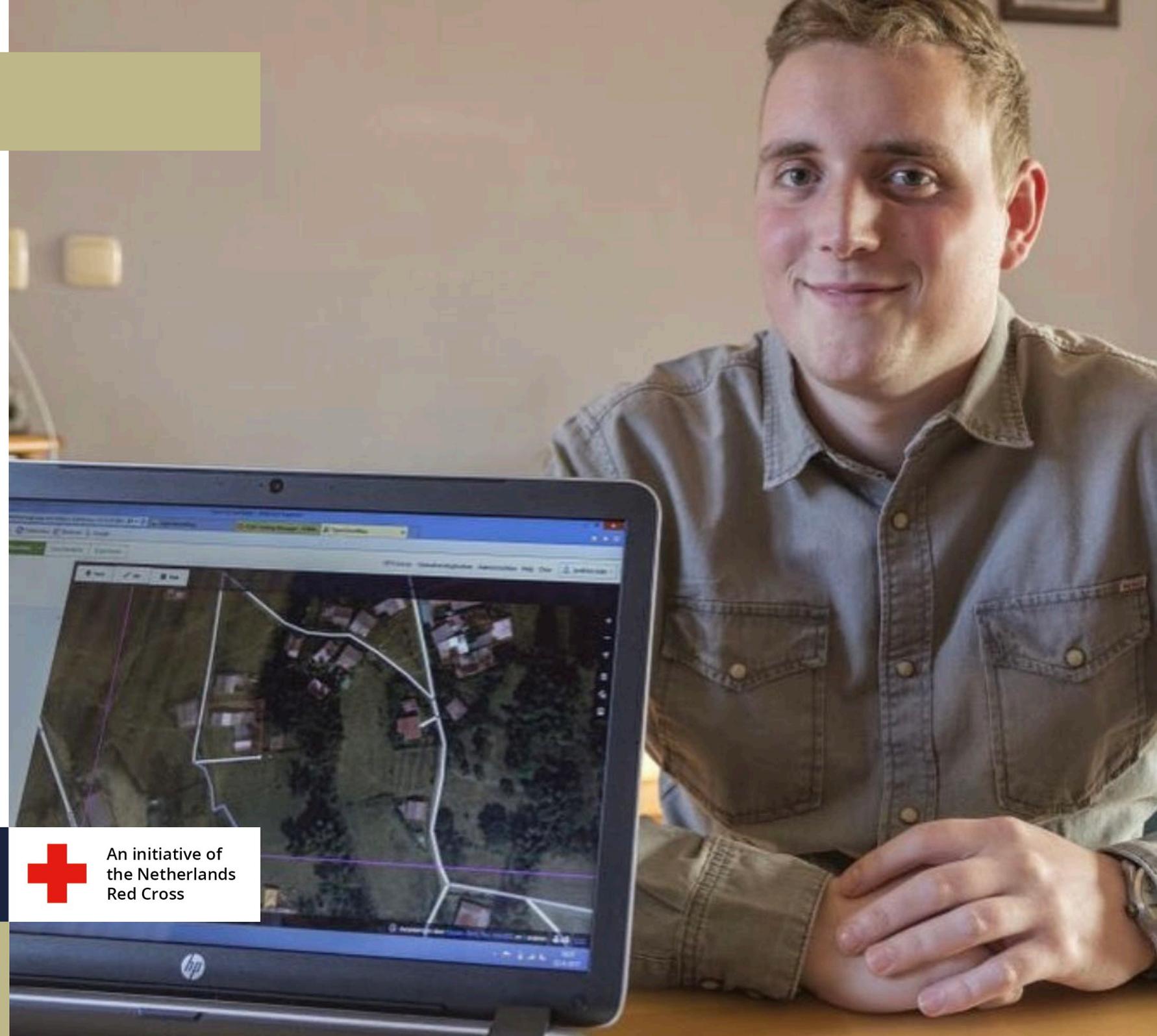


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Professional volunteers & academic research

Volunteers

510 embraces volunteerism. Our volunteers have a broad range of skills - their work can be categorized into Data Science, Geographic Information System (GIS) and Modeling, Human-Centered Design, Data Analytics, Translations, SIMS, Software Development, and Data Responsibility.



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Academic Research

510 uses research to build evidence and innovate. Research topics are broadly defined within 510 in relation to project objectives and overall strategy. A few are more curiosity-driven, can become ideas for future projects, and in some cases students or universities approach us with a proposal.

The scoping of research topics is an iterative and interactive process among different stakeholders, especially 510 and universities, whereby the thematic leads are key in defining the research priorities for their themes based on the needs of National Red Cross and Red Crescent Societies and ongoing project objectives. In addition, the MSc student expertise and interest of the University supervisor are considered.

Main scientific disciplines:

- Geosciences
- Computer science
- Technology, Policy and Management (multi-actor systems, information management, agent-based modelling)
- Econometry, statistical sciences
- Epidemiology
- Social sciences



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Anticipatory Action

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Services :

- Trigger Development
- Early Action Protocol Development

- Cash Information Management

- Digital CEA

- Digital Maturity Assessment
- Data Literacy
- Data & Digital Capacity building
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- Hotspot Mapping
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Products :

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Proposal & Thematic Management

Marc van den Homberg
mvandenhomberg@redcross.nl

Lars Stevens
lstevens@redcross.nl

Jonath Lijftogt
jlijftogt@redcross.nl

Liselot Kattemölle
lkattemolle@redcross.nl

Jacopo Margutti
jmargutti@redcross.nl

Marijke Panis
mpanis@redcross.nl

Aklilu Teklesadik
ateklesadik@redcross.nl

Fernando Suarez Jimenez
fsuarezjimenez@redcross.nl

Heleen Elenbaas
helenbaas@redcross.nl

Coordination & Line Management

510 Team Lead

Maarten van der Veen
mvanderveen@redcross.nl

Data Team Lead

Marijke Panis
mpanis@redcross.nl

Digital Team Lead

Richard Lines
rlines@redcross.nl

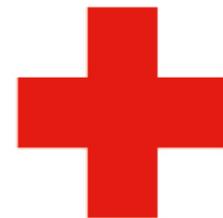
Operations Lead

Lars Stevens
lstevens@redcross.nl

Research Lead

Marc van den Homberg
mvandenhomberg@redcross.nl

510



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