



Ministry
of Digital Transformation
of Ukraine



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development
and Cooperation SDC



East
Europe
Foundation

Deloitte.

The Territorial Community Digital Transformation Index in Ukraine

Methodology

Table of Contents

Glossary

01 About the Index

Introduction

The TCDTI structure

Classification of territorial communities

Description of the TC digital maturity levels

Use of the measurement results

02 Measurement Stages

General process map

Parties involved in the measurement process

Data sources and data collection principles

Measurement of the annual digital development dynamics

Preparation of the TC digital maturity rating

Ongoing monitoring of TCDTI and approach to its updating

03 Refined Structure of the Index

04 Approaches to weighting TCDTI groups and indicators. Determination of their target values

Annexes

Annex 01. Recommendations on Risks Management

Annex 02. Pilot Measurement Results

Glossary

TCDTI

The Territorial Community Digital Transformation Index – the calculable value that is determined as a result of the TC digital transformation and characterizes the dynamics of its development using predefined parameters

TCDTI tools

A set of tools—Excel tables—used to collect data and calculate the DTI

TC

Territorial Community – the basic administrative and territorial unit in Ukraine, formed by merging several settlements, whose center may be a city, a settlement, or village

Knowledge bases

A library containing specific recommendations for digital transformation specialists, cases of successful problem solving; regulatory support, descriptions of technologies, implementation guidance, etc.

Groups

Thematic sets of indicators grouped by related spheres of TC digitalization

Subgroups

Areas that present the priorities in the TC digital development and are monitored within the Index

Indicators

Calculable elements of the structure, by which the TC digital transformation is monitored

Parameters

TC's data that are collected from information holders and serve the base for calculating the indicators

Weight

The coefficient which determines the share of Index's structural elements (groups, subgroups, or indicators) in the higher-ranked structural elements in the hierarchy

CDTO

Chief Digital Transformation Officer of the Regional State Administration

Third parties

Ministries and government agencies—including their structural units—that are not subordinate to the Ministry of Digital Transformation and local governments and whose data are used to measure community indicators

Local government

Local self-governance body – TCs' elected and other bodies empowered to resolve matters of local significance

MDT

The Ministry of Digital Transformation of Ukraine – the main body in the system of central executive bodies, which ensures the development and implementation of the state policies in such areas as digitalization, digital development, digital economy, digital innovations, e-government and e-democracy

ASC

Administrative Services Center – the local government's effective working body, which provides administrative services through an administrator dealing with recipients of administrative services

GSEE

General Secondary Education Establishment – an educational establishment whose core activity includes educational activities in general secondary education у сфері загальної середньої освіти

HCI

Healthcare institution – a legal entity of any legal form and ownership or its separate division, which provides healthcare services to the population under an appropriate license therefor through professional activities of medical (pharmaceutical) specialists and rehabilitation specialists

Business entity

A domestic or foreign legal entity of any form of ownership, as well as sole proprietors who carry out activities—goods production, service rendering, or trade—in Ukraine without creating a separate legal entity

KVED

(Ukrainian abbreviation for Ukrainian Classification of Economic Activities)
A statistical tool for organizing economic information

PIT

Personal Income Tax – a tax collected from individuals or legal entities (taxpayers), which may vary depending on their obtained revenues or profit (taxable income)

01

About the Index

Introduction

How often should the Index be measured?

The measurement is performed annually. Based on the results of TCDTI measurement, the MDT's Measurement Team prepares a community rating to enable further analysis of these communities, ministries and government agencies as part of a comprehensive assessment of the state of digital transformation in the participating communities.

What is the purpose of the Index?

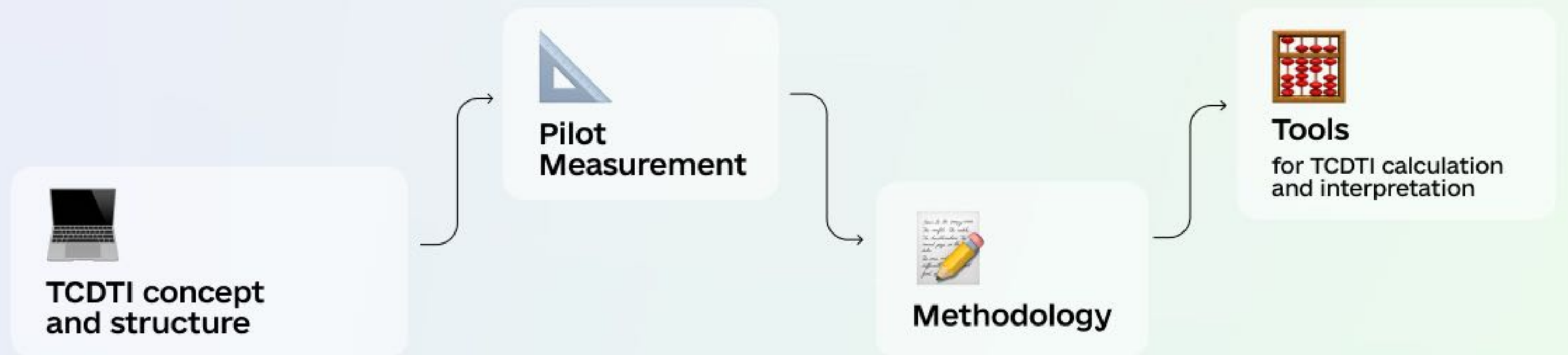
TCDTI is used to assess the level of digital transformation in the regions, aiming to further search for opportunities for the state to support digitalization processes therein, as well as to determine priority areas for digital development of communities and systematic implementation of e-governance, e-democracy tools, etc.

Who is the Index owner?

The Territorial Community Digital Transformation Index was introduced by the Ministry of Digital Transformation of Ukraine to monitor the digitalization process in territorial communities.

Who was the methodology developed by?

The methodology was developed by the Ministry of Digital Transformation in cooperation with the Eastern Europe Foundation within the implementation of the EGAP Program, and sponsored by Switzerland. Expert support and methodological support for the Territorial Community Digital Transformation Index Concept is provided by Deloitte.

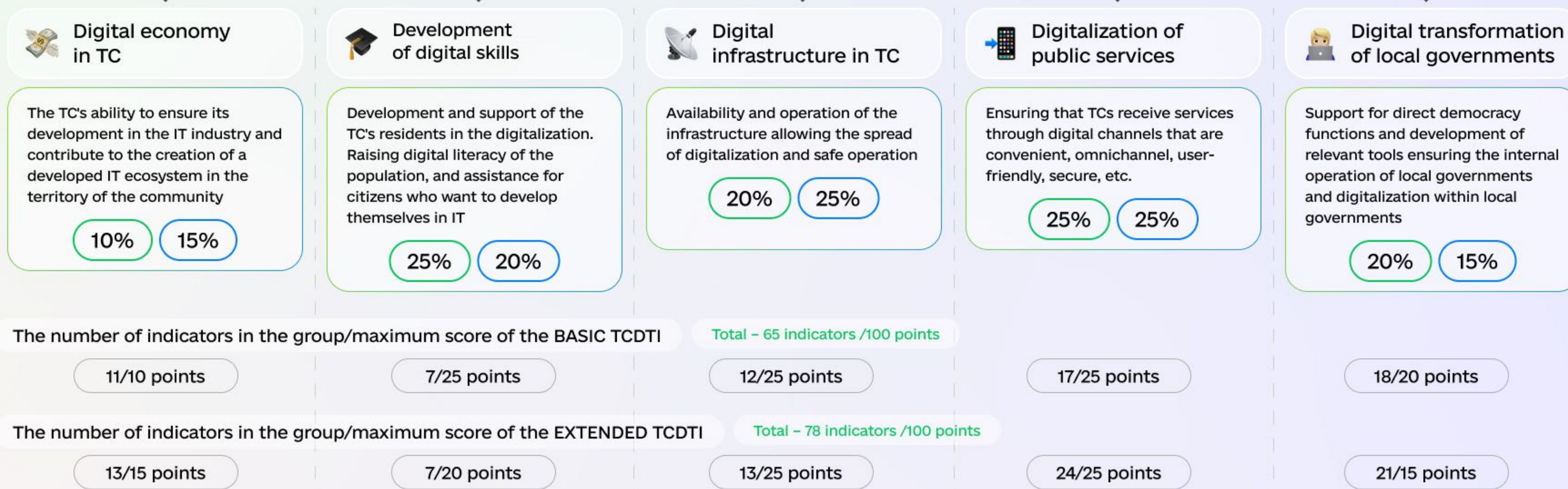


TCDTI structure

Basic TCDTI and Extended TCDTI both include five identical groups of indicators, but vary in the number of indicators – 65 and 78, respectively. Basic TCDTI consisting of 65 indicators must be measured in small- and medium-sized communities (if necessary, the measurement may be performed for all communities). Extended TC DTI consisting of 78 indicators must be measured in significant and large communities (additional indicators for the measurement in more mature and developed communities).

Why do Basic TCDTI and Extended DTI have different number of indicators? Some indicators considered within the Extended Index were excluded from the Basic Index due to the high risk of unavailability of certain measurement objects (parameters) in small- and medium-sized TCs, needed as the base for calculating these indicators. Thus, the Extended Index combines the entire list of indicators of the Basic Index (65 items) and additional indicators (13 items) for significant and large TCs.

The structure of the Basic and the Extended TCDTI



In addition, there are indicators (18 items) for future measurement that are included neither in the Basic TCDTI not in the Extended TCDTI

XX Group weight in Basic TCDTI

XX Group weight in Extended TCDTI

Classification of territorial communities

Type of TCe	Profitable TCs (FCI<0.9*)	Subsidized TCs (FCI<0.9*)
Small Basic TCDTI	<10 k residents	<10 k residents
Medium-sized Basic TCDTI	10-50 k residents	10-50 k residents
Significant Basic TCDTI Extended TCDTI	50 k residents the minimum number of residents in the regional center**	50 k residents the minimum number of residents in the regional center**
Large Basic TCDTI Extended TCDTI	> the minimum number of residents in the regional center**	> the minimum number of residents in the regional center**

Additional characteristic

TCs that are under occupation and TCs where active hostilities are taking place – no TCDTI measurement is performed

Deoccupied TCs and TCs where the critical infrastructure has suffered significant destruction – the Basic TCDTI measurement is performed

An additional characteristic to the selected option is temporarily applied and must be reviewed once a year (during monitoring of relevance and making changes to TCDTI)

* The parameter 0.9 was taken from Article 99 of the Budget Code of Ukraine

** The minimum number of residents in the regional center is determined based on the statistics data as of the start date of TCDTI measurement

Description of the TC digital maturity levels

MEASUREMENT RESULTS RATING

The rating is based on the total score obtained by the community for 66/79 indicators, depending on the Index being measured. The maximum score a community can obtain – 100 points.

Each community is ranked in the Index rating in comparison with other communities. If certain communities obtain the same score, they share their position in the rating.

Depending on the obtained score, the community determines its digital maturity, using the following score ranges.

Digital maturity levels		Score Ranges
Transformational	▶▶▶	91–100 points
Proactive	▶▶▶	71–90 points
Perspective	▶▶▶	51–70 points
Basic	▶▶▶	31–50 points
Starting	▶▶▶	0–30 points

Use of the measurement results

The TCDTI is a tool for collecting, processing, and analyzing data on the communities' current digitalization level. The index is important as it enables the monitoring of the digital transformation progress. Regular digital transformation monitoring and assessment of territorial communities, which differ in: area, number of the residents, administrative status, economic indicators, is a valuable tool for ensuring stable progress in achieving the goals set by the Ministry of Digital Transformation of Ukraine regarding: digitalization of regions, timely and effective managerial decisions, coordination of actions being taken by all stakeholders. The TCDTI is used not only to track results achieved by TCs, but also to identify areas that require additional attention due to slow or no progress and possible reasons therefor, as well as to set priority areas for the community's digital development.

Why is the Ministry of Digital Transformation so serious about analyzing the DTI measurement results? The MDT monitors the implementation of the state's strategic goals by analyzing TCs' key indicators that, directly or indirectly, impact these goals

2024 strategic goals

10%



share of IT in the country's GDP

6 million



Ukrainians to be involved in the digital skills development program

95%



To cover the coverage with the high-speed internet

100%



To make public services for the population of services to be transferred online

DTI structure

Digital economy in TC

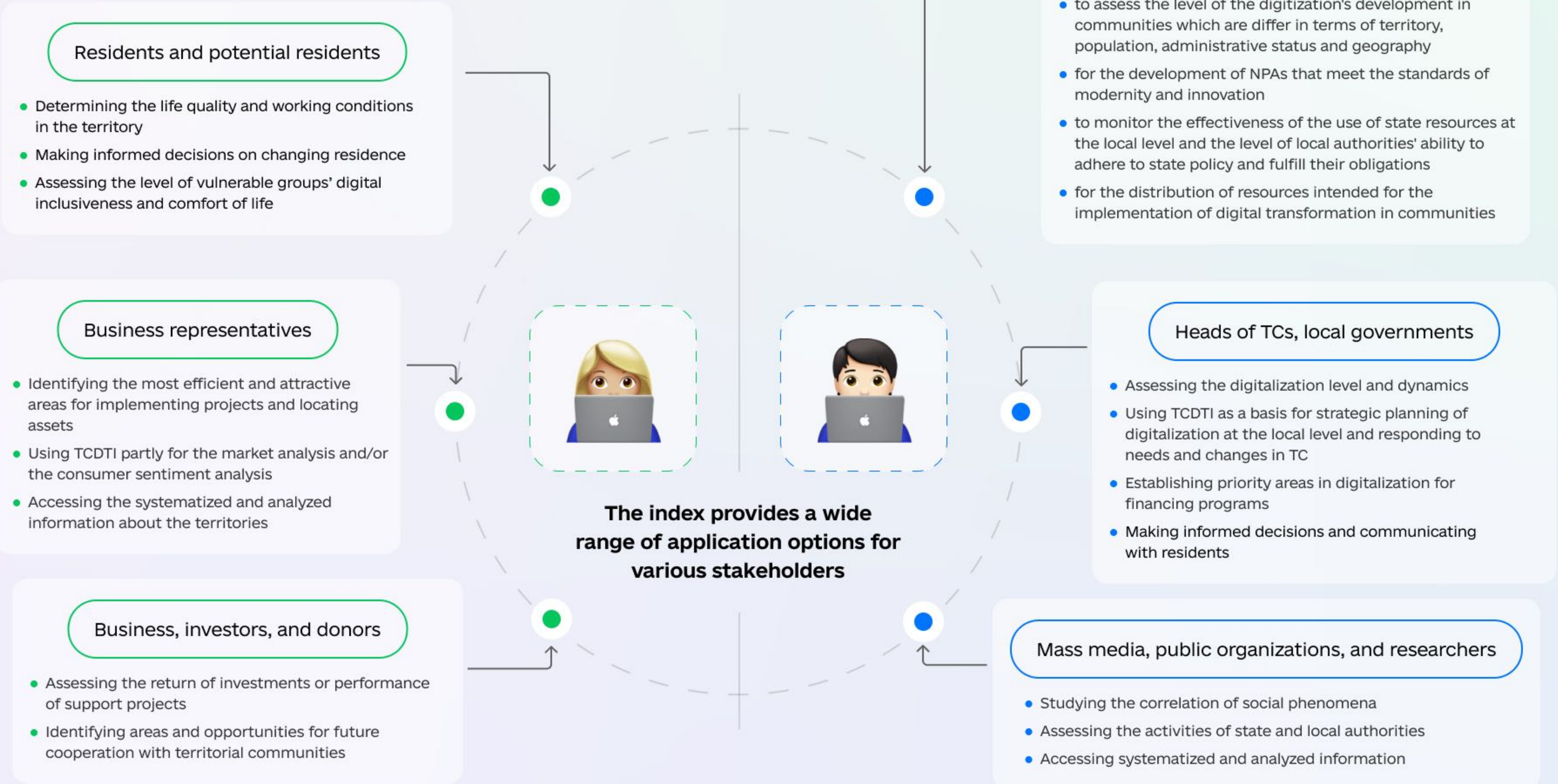
Development of digital skills of the population

Digital infrastructure in TC

Digital transformation of public services

Digital transformation of local governments

Use of the measurement results



02

Index Measurement Stages

General process map

The term of implementation of all stages of measuring the Index is 142 working days. The implementation period is given in working days. This process map does not include an automation step

The MDT determines the measurement start date



Stage 1 ~26 days

Stage 2 ~36 days

Stage 3 ~18 days

Stage 4 ~30 days

Stage 5 ~22 days

Stage 6 ~10 days

Stage 7 ~40 days

Key activities:

- Create a TCDTI analytics team, appoint the measurement manager
- Develop a TCDTI measurement plan/road map
- Prepare presentation, training materials
- Create promotion and measurement tools
- Post a press release

- Hold a training session for TC coordinators
- Develop a plan for communication between the participants of the Index measurement
- Plan regular Q&A sessions for TCs to obtain their feedbacks

- Prepare and send a data request form/questionnaire to collect the collecting indicators from TCs and third parties
- Collect indicators (to be done by third parties)
- Provide the obtained indicators to the MDT's Measurement Team
- Consolidate the data collected from TCs and third parties

- Verify the indicators collected and calculated (to be done by the MDT)
- Calculate the Index and its structural elements for each TC according to the instructions

- Assign the digital maturity level to each TC (depending on the Index calculated)
- Analyze the results at the MDT level
- Analyze the results at the TC level
- Analyze the measurement results by key indicators, achievement of the MDT's strategic goals

- Create a dashboard displaying the results of TCDTI measurement
- Present the TCDTI measurement results
- Conduct a campaign aimed to propagate best practices (including media coverage)
- Identify the priority areas in the development of TC

- Create a pool of practicing experts for exchanging experience between TCs (by digitalization areas)
- Create a database of successfully implemented TC projects
- Arrange for training sessionse to transfer experience to TC representatives from leading foreign/ domestic digitalization experts

- Stage 7 begins three months before the start of the next measurement
- Conduct a TCDTI relevance analysis
- Make changes to the structure / weights / approach and data verification methods (if necessary).
- * The introduction of automation affects the amount of resource engagement at this and subsequent stages, in particular, human capital to meet the specified deadlines

Parties involved in the measurement process



Index owner

Sets strategic goals for the project manager; provides the measurement manager with an analytics team, expert team, and consulting support; takes decisions on making changes to the measurement process and changes the composition of the parties involved in the measurement



Project Manager

Coordinates the measurement process and functions as a project manager, communicates with third parties, provides advisory and methodical support, records feedback



TC Facilitator

Provides communication with TC Coordinator and Measurement Team, as well as advisory and methodical support; checks that TCs provide information in a timely manner, records feedbacks from communities and initiates discussions with Measurement Team



Analytics team

Collects information, calculates the TCDTI and verifies data; carries out communications with TCs and third parties; prepares the rating and analyzes the results



TC's Coordinator

Provides information at information requests, communicates directly with information owners; organizes the data collection process; participates in discussions with Project Team



Information Holders

Collect and verify data and enter information into request forms; prepare comments; communicate with the TC Coordinator / person responsible for collecting data from third parties



Expert Team

Participate in setting/ changing weights and target values; provide advisory support to the parties involved in the measurement

(The team consists of both internal and external experts)

Responsible parties



Ministry of Digital Transformation of Ukraine

CDTO



Ministry of Digital Transformation of Ukraine

→ Territory community

→ Third parties

→ Territory community

→ Third parties



Ministry of Digital Transformation of Ukraine

Data sources and collection principles



Data of territorial communities

Data of structural units of local governments and utility companies (in particular, open source datasets, internal reporting, etc.), which must be collected and/or calculated using a single Index methodology.



Data of the Ministry of Digital Transformation

Data maintained by the Ministry of Digital Transformation, in Diia, for example, analytics related to the use of public data, Digigram surveys, etc.



Other structures third party organizations and public register data

Data used to calculate indicators (for example, the average X indicator for Ukraine) obtained from public registers, ministries and government agencies, including:

- State Employment Service
- State Tax Service
- State Migration Service
- Ministry of Education and Science

The data should be collected following the below principles:

Reliability Information must be collected from reliable sources that own such information or create it in carrying out their activities

Timeliness Information must be collected in a timely manner, with minimal tolerable delays

Completeness Information must fully cover the need

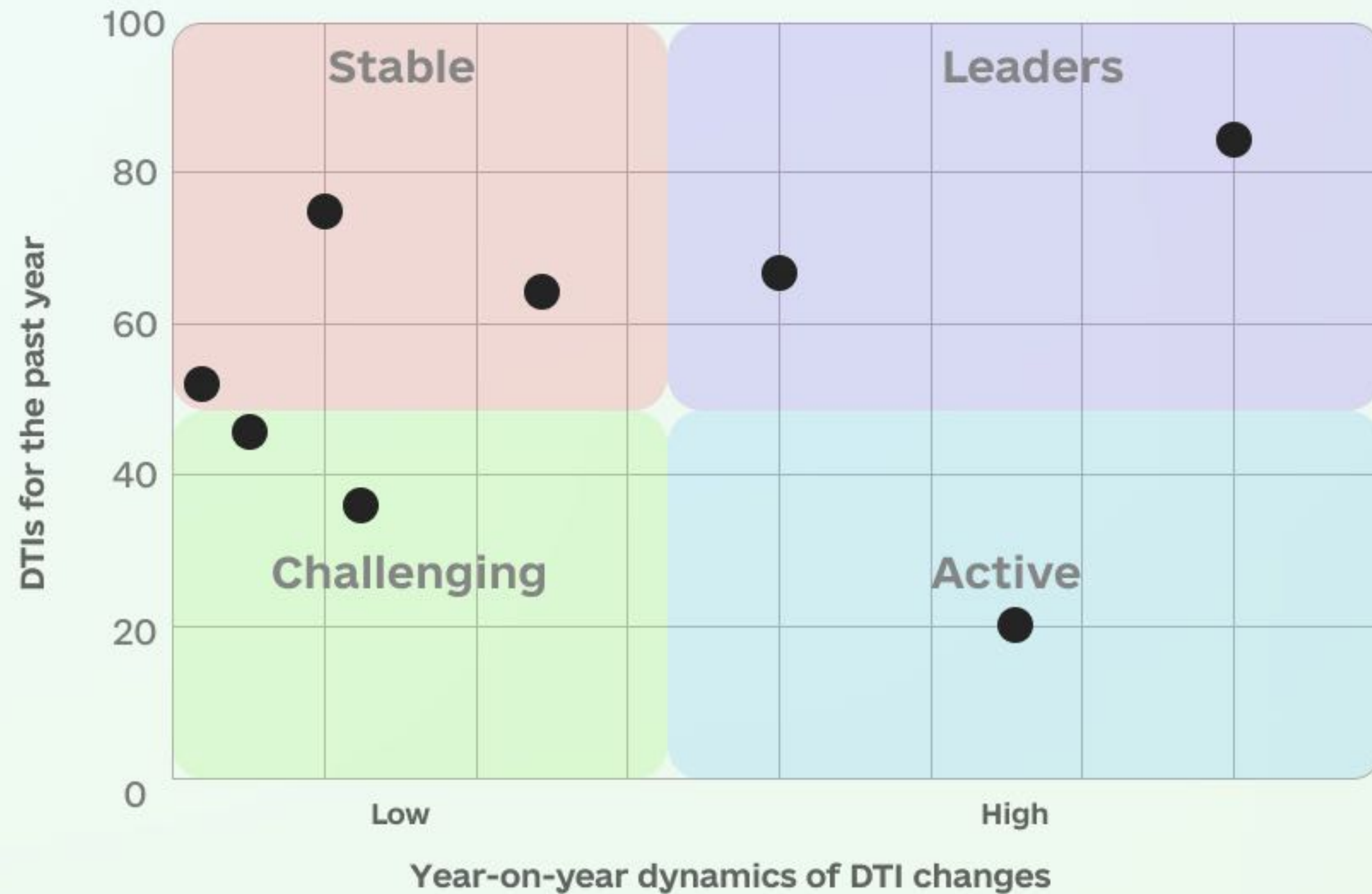
Regularity Information must be collected on a regular basis and be available for collection in subsequent periods

Applicability Information must be prepared so that it is ready for processing

Confidentiality Information must ensure non-violation of effective laws of Ukraine regarding the preservation of confidential data, as well as banking, financial, and commercial secrets

Measurement of the annual digital development dynamics

TC digital development dynamics zones



Key aspects

- The annual dynamics of digital development should be measured starting from the second year of the TCDTI measurement by comparing the TCDTI values for the current and previous years for each TC to determine the % of change.
- The measurement aims to determine the current state of digitalization of the community and to assess the speed of its transformation.
- There are four zones based on the TCDTI calculated for the current year and the determined annual dynamics. The dynamics is estimated as low or high (for example, if the % of changes is less than 20% – the dynamics is estimated as low; if the % of changes is more than 20% – the dynamics is estimated as high).

4 types of communities in accordance with digital development

- Leaders** are TCs that demonstrate a high level of digitalization (the TCDTI score is more than 50) and rapid development.
- Stable** this zone includes TCs that have reached medium and high levels of digitalization (the TCDTI score is more than 50) but demonstrate a slower development as compared to the previous year.
- Active** this zone includes TCs that have a medium or low level of digitalization (the TCDTI score is less than 50) but demonstrate rapid development.
- Challenging** this zone includes TCs that have a medium or low level of digitalization (the TCDTI score is less than 50) and demonstrate slow development.

- For each type of TC (zone), data should be processed separately, with consideration of their size (large, significant, medium-sized, small).
- TCs that appeared in **Challenging** need particular attention and communication with heads of such TCs to identify factors preventing these communities from achieving digitalization goals.
- It is necessary to develop an action plan that includes expert assistance, funding, joint activities, setting priority areas for further development.
- Getting of the majority of TCs into **Stable** can be a trigger for introducing new strategic areas of digitalization – making changes to the structure of the Index.
- Getting most of TCs into **Challenging** can be a trigger for reducing the target values and revising the structure of the Index.

Preparation of the TC digital maturity rating

Assign the digital maturity level to each TC (depending on the Index calculated)

Description of the TC digital maturity model

The TC digital transformation rating includes the measurement of the current digital maturity level of each community and a description of the main stages of digital transformation, the sequence of ICT implementation, and priorities for allocating TCs' resources in this journey.

There is a five-step assessment of TC digital maturity for different qualification groups:

- **Large and significant cities** – based on the results of the Extended Index measurement
- **Medium-sized and small towns** – based on the results of the Basic Index measurement

The TC's digital maturity level is determined as a total sum of DTI points, depending on the type of the Index being measured

There are five TC digital maturity levels with the following score ranges:

Transformational	▶▶▶	91 to 100 points
Proactive	▶▶▶	71 to 90 points
Perspective	▶▶▶	51 to 70 points
Basic	▶▶▶	31 to 50 points
Starting	▶▶▶	0 to 30 points

Description of the TC digital maturity levels

01 Transformational

TC is characterized by a high level of digitalization in all areas covered by the Index, has a strong track record of successfully implemented digitalization projects in TC's social areas, ensures sufficient information security and quality indicators.

02 Proactive

TC is implementing a digitalization program and actively cooperating with residents to promote digitalization, has good indicators of publicity and transparency of the local government, and is attractive for investments in IT.

03 Perspective

TC has average scores in most subgroups of the Index and demonstrates progress in digital transformation in almost all areas covered by the Index.

04 Basic

TC is preparing organizational and methodological support for the implementation of digitalization. The local government is involved in the development of digital skills of the population. TC has certain achievements in enhancing the quality and accessibility of the information infrastructure.

05 Starting

TC has certain achievements in digitalization of public services for the population and is carrying out a transformation in its local government, has embarked on the implementation of digital tools in TC's social areas: education, medicine, health and safety, etc.

Ongoing monitoring of TCDTI

Timing: 40 days



The frequency of comprehensive monitoring of the TCDTI relevance

1 a year



The start date of the monitoring of the TCDTI relevance

3 months before the TCDTI measurement starts



The end date of the monitoring of the TCDTI relevance

1 month before the next TCDTI measurement starts



The main triggers for making changes to the TCDTI include but not limited to the following:

- Changes in the strategic goals of the Ministry of Digital Transformation of Ukraine
- Giving priority to the implementation of the MDT's short-term tasks related to the digital development
- Achieving of the set target indicators by all TCs or most of TCs
- Possibility to collect data for calculating indicators in For Future Measurement
- Other

The TCDTI approach to updating

The monitoring of TCDTI components may result in the following changes:

1. Adding/deleting/merging: groups, subgroups, indicators within Basic TCDTI and Extended TCDTI
2. Redistribution of importance weights: groups, subgroups and indicators of TCDTI
3. Adjustment of the approach to and methods of verifying TCDTI parameters and indicators
4. Change in how resulting TCDTI is displayed on the dashboard

Participants

TCDTI owner
Consultation Team:

- TCDTI project manager
- Person responsible for calculating the TCDTI
- TC coordinators
- External and internal experts

All changes introduced must be:

1. Approved by the TCDTI Owner and documented,
2. Explained to all stakeholders of the TCDTI measurement (if necessary)

03

Refined Structure of the Index

International and domestic analysis

The structure of the TCDTI was brought in line with the strategic goals of the Ministry of Digital Transformation, TC's digital transformation best practices, and regulations governing the countrywide digitalization

Step 1. Building of the structure of the TCDTI

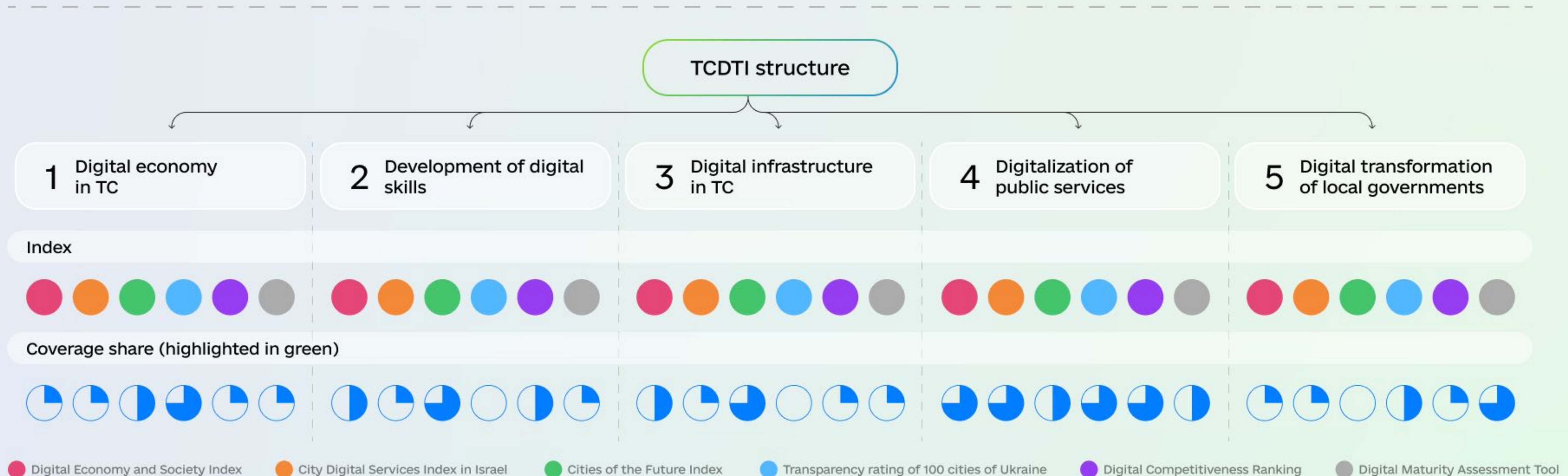
The proposed structure of the TCDTI is comprehensive, with almost all of its subgroups being covered by the analyzed international practices. In addition, it was updated to meet the needs of digital transformation, current laws and regulations and current risks in Ukraine.

Most of indices that ensure comprehensive measurement of digital transformation at the international level are fully covered by the groups measuring the business environment, digital skills of the population, digitalization of services provided by authorities, and the digitalization level of the infrastructure.

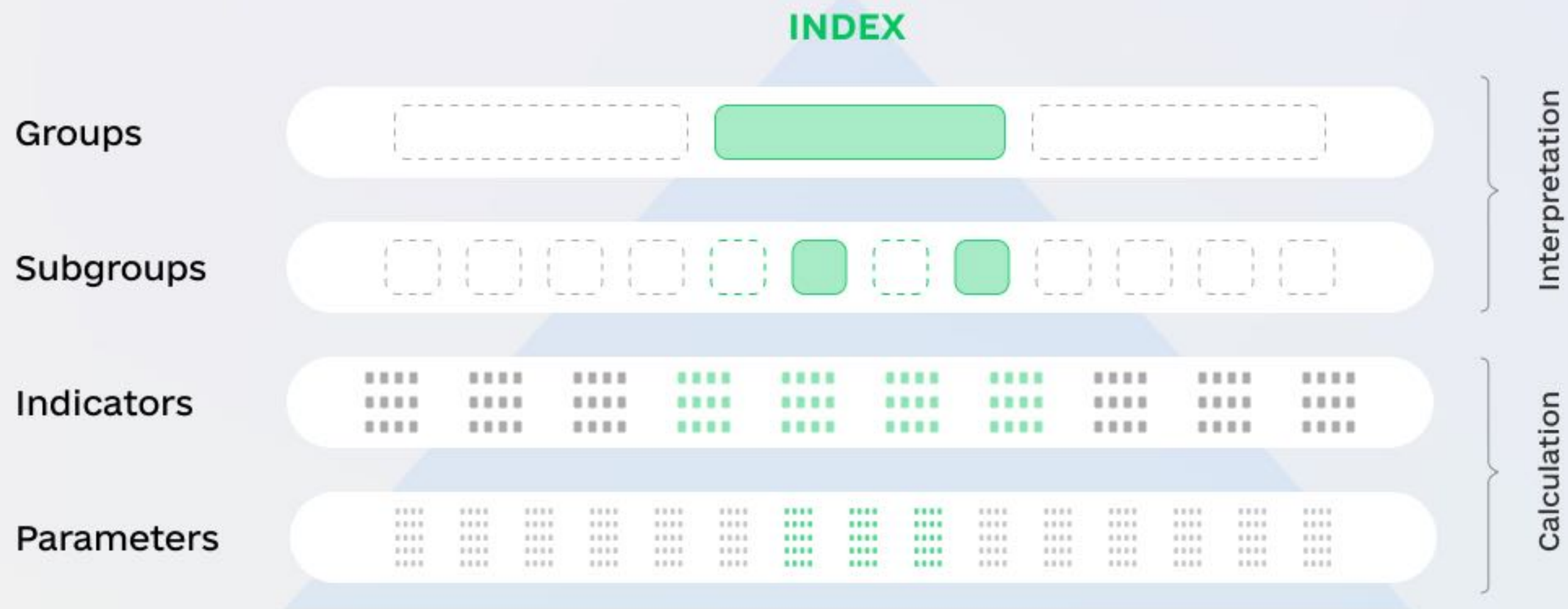
Step 2. Preparation of the list of indicators

For further testing and adjusting the list of indicators, the TCDTI structure that was built based on the results of the analysis was further detailed using sets of indicators.

The list of indicators was extended with indicators to measure the digitalization of services for vulnerable groups, including internally displaced persons.



Hierarchical structure of TCDTI



01 SUBGROUPS

The number of subgroups in the group is proportional between the groups of the TCDTI to ensure a **balanced and comprehensive measurement** of TC's digital transformation

02 INDICATORS

Quantitative indicators for measuring the calculable parameters that can be measured and calculated in numerical values

Qualitative indicators for measuring non-calculable parameters that cannot be measured and expressed in numbers or counted

If there is no **data for measurement**, the indicator falls in For Future Measurement

03 PARAMETERS

Indicator values must be up-to-date, relevant, and reliable

These parameters must be collected in accordance with **applicable laws** and from the specified sources of information

STRUCTURAL ELEMENTS OF THE INDEX

Groups	Thematic sets of indicators grouped by related spheres of TC digitalization
Subgroups	Areas that present the priorities in the TC digital development and are monitored within the Index
Indicators	Calculable elements of the structure, by which the TC digital transformation is monitored
Parameters	TC's data that are collected from information holders and serve the base for calculating the indicators

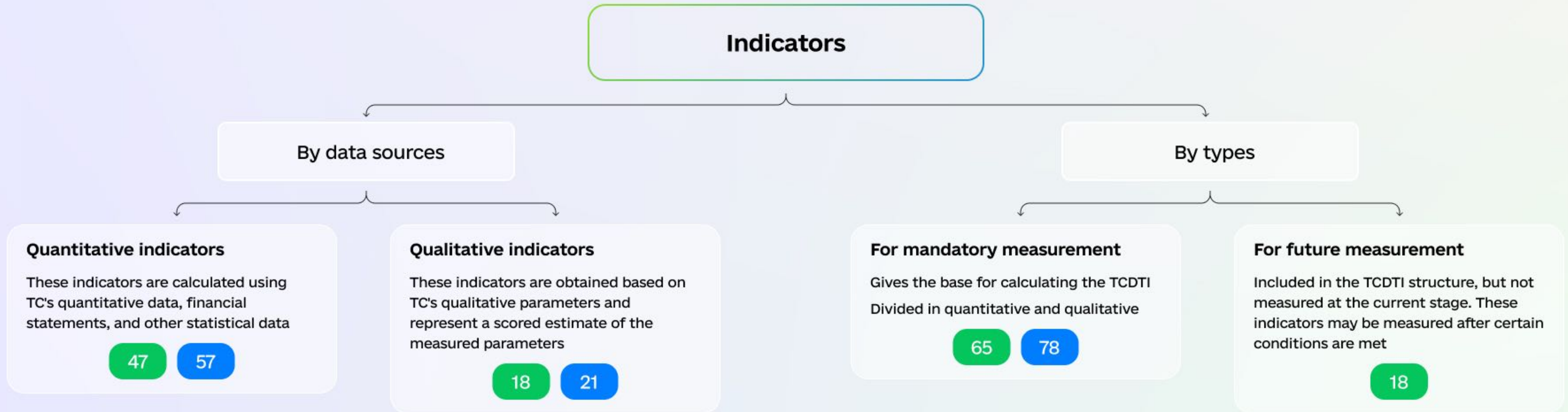
Basic TC and Extended TCDTI



Basic TCDTI consisting of **65 indicators** must be measured in small- and medium-sized communities (if necessary, the measurement may be performed for all communities)



Extended TCDTI consisting of **78 indicators** must be measured in significant and large (additional indicators for the measurement in more mature and developed communities)

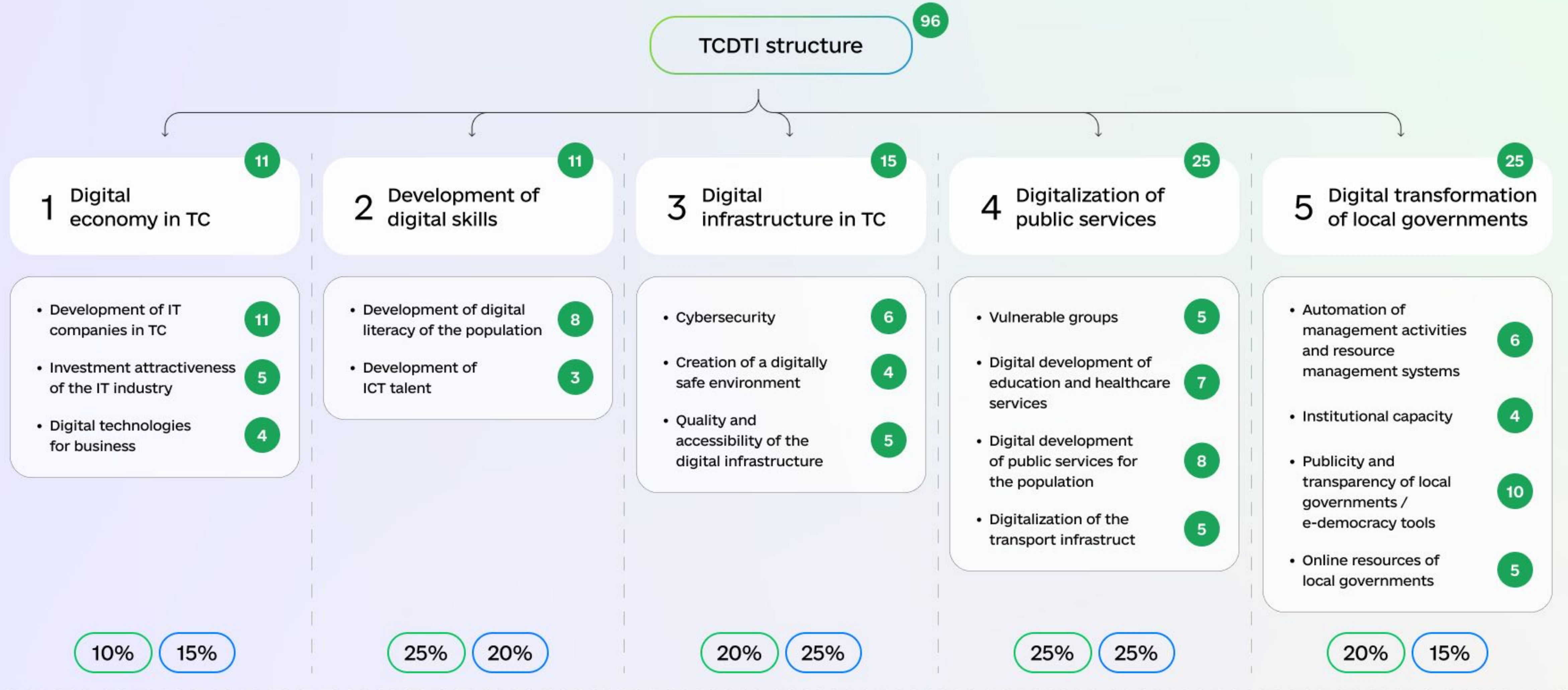


Parameters are the basic elements of the TCDTI used as the base for calculating indicators

The total number of indicators is **199**, of which **140** come from local government agencies and **59** come from other ministries and services.

TCDTI Groups and Subgroups

TCDTI is a set of 96 indicators structured by 16 subgroups within 5 groups



xx Total number of indicators

xx Group weight in Basic TCDTI

xx Group weight in Extended TCDTI

Extended TC and Basic TC DTI

GROUP	SUBGROUP	For mandatory measurement		
		Extended TCDTI	Basic TCDTI	For future measurement
Digital economy in TC	Development of IT companies in TC	7	7	4
	Investment attractiveness of the IT industry	4	2	1
	Digital technologies for business	2	2	2
Development of digital skills of the population	Development of digital literacy of the population	4	4	4
	Development of ICT talent	3	3	-
Digital infrastructure in TC	Cybersecurity	4	4	2
	Creation of a digitally safe environment	4	3	-
	Quality and accessibility of the digital infrastructure	5	5	-
Digitalization of public services	Vulnerable groups	5	3	-
	Digital development of education and healthcare services	6	6	1
	Digital development of public services for the population	8	8	-
	Digitalization of the transport infrastructure	5	-	-
Digital transformation of local governments	Automation of management activities and resource management systems	6	4	-
	Institutional capacity	4	3	-
	Publicity and transparency of local governments/e-democracy tools	6	6	4
	Online resources of local governments	5	5	-
Total number of TCDTI		78	65	18

TCDTI structure: subgroups in Digital Economy in TC



TC's ability to ensure the development of IT and to facilitate the creation of a well-developed IT ecosystem across its territory



Development of IT companies in TC

- Number of IT enterprises
- TC's budget revenues from payment of PIT and single tax by business entities operating in IT
- Proceeds from export and domestic consumption of IT services/goods
- Number of new jobs created in IT
- Average salary in the IT industry
- Number of created startups



Investment attractiveness of the IT industry

- Attracting capital investments in the IT industry
- Number of workplaces in IT hubs, which can be rented by IT specialists
- Availability and relevance of information about TC's investment objects
- The number of HEI and college graduates specialized in IT



Digital technologies for business

- Provision of online services to business
- Effectiveness of rendering services to business
- Incentives for developing entrepreneurship in TC

TCDTI structure: subgroups in Development of Digital Skills



tt



Development of digital literacy of the population

- Raising of TC population's digital literacy (skills and knowledge)
- Creation of favorable conditions to increase the reach by digital technologies
- Use of online registration services on the Diia portal
- Availability and use of smartphones and/or tablets by the population of TC's residents



Development of ICT talent

- Knowledge development of schoolchildren in information and communication technologies (ICT)
- Promoting the development of infrastructure of digital literacy education

TCDTI structure: subgroups in Digital Infrastructure in TC



Availability and operation of the infrastructure allowing the spread of digitalization and safe operation



Quality and accessibility of the digital infrastructure

- Broadband coverage and access
- Creation of an IT infrastructure to enable the operation of ASC remote workplaces
- Provision of local government and educational establishments with modern computer equipment



Cybersecurity

- Timely response of systems to cyber incidents
- Cybersecurity/cyber hygiene awareness sessions for TC's local government and residents
- Upgrading the software at the local government



Creation of a digitally safe environment

- Integrated video surveillance coverage, public notification of emergencies or incidents
- Operating air quality monitoring systems

TCDTI structure: subgroups in Digitalization of Public Services



Ensuring that TCs receive services through digital channels that are convenient, omnichannel, user-friendly, secure, etc.



Vulnerable groups

Availability and use of the ASC mobile suitcase
Creation of an infrastructure for people with visual/hearing disabilities (regulated pedestrian crossings, vehicles with audio information devices, etc.)
Provision of IDPs with useful information/links on the TC portal



Digital development of education and healthcare services

Possibility of online registration for kindergartens
Provision of schools with STEM/STEAM-labs and computer equipment
Online appointment with family doctors



Digital development of public services for the population

Provision of administrative services to the population through digital channels and Diia Centers
Provision of ASC with equipment for QR-validation in Diia/reading of ID cards
IVR system for information exchange



Digitalization of the transport infrastructure

Implementation of interactive stops tracking, creation of online public transport stops maps
Support for the implementation of e-tickets and related solutions
Implementation of parking payment solutions

TCDTI structure: subgroups in Digital Transformation of Local Governments



Support of direct democracy functions, development of relevant tools ensuring the internal operation of local governments, digitalization within local governments



Automation of management activities and resource management systems

Implementation of an electronic document management system for local government, public bodies and institutions

Implementation of energy saving and energy efficiency monitoring systems for communally owned facilities



Institutional capacity

Development and implementation of an informatization program

Availability of a functional unit responsible for digital transformation of TC

Availability of a leader responsible for digital transformation of TC



Publicity and transparency of local governments/ e-democracy tools

Support for the implementation of e-democracy tools: petitions, public budget, open budget, etc.

Increasing publicity and transparency using digital tools

Ensuring greater involvement of the population through digital channels in communication with local governments



Online resources of local governments

Availability of a public geoportal of TC

Open access to tourist information and cultural events on local government resources

Compliance of the local government's official website with the Diia design code

04

**Approaches to weighting TCDDTI
groups and indicators.
Determination of their target values**

Setting weights and target values

Weight setting/changing model

Create an expert team

The weights are determined through a survey of the Expert Team aimed to establish the priority of the indicator and each group. For proper determination of weights, it is recommended to involve a group of 5 to 10 participants.

Conduct a survey

Conducting a survey of the Expert Team for each indicator and group – closed voting. Questionnaires are sent to participants who rate all questions from 1 to 5 (1 – less important, 5 – most important).

Calculate the weight

The Measurement Team calculates the weight. Each rate is converted into a score according to the Fibonacci number series. The final score of the indicator is calculated by the formula $B_f = \sum \text{sum of points} - \text{MIN}(B) - \text{MAX}(B)$, where MIN(B) and MAX(B) are the minimum and maximum scores, respectively. If the minimum and maximum points are more than one, only one minimum and one maximum point is deducted.

The indicator weight is calculated by the formula:

$\gamma_{\text{indicator}} = (\text{Final indicator score}) / (\sum \text{sum of final scores of all task indicators}) \times 100\%$.

Making changes to the methodology and tools

Making changes to the methodology and tools for the indicators and groups whose weights have changed.

Monitor and make adjustments

The weights are revised annually, at the monitoring stage, in case of:

- changes in the Index structure at the level of indicators and/or groups; for example, when one of the indicators is removed or added because its target value has been achieved;
- changes in the priority development areas;
- relevant decision of the Expert Team based on the measurement results.

Target values setting/changing model

Convene the Measurement Team

The target values are set with involvement of the Measurement Team.

Hold a discussion and set targets

The Measurement Team meets to discuss and set target values. These will be optimal values agreed upon by the majority of the team members. For certain indicators, it may be required to involve internal and external experts to set their target values.

Target values should be realistic and achievable. In case there is no starting point to set the target value logically, it is recommended to set a higher value than the projected one, keeping in mind that this indicator may hardly be achieved in practice.

Making changes to the methodology and tools

Making changes to the methodology and tools for the indicators and groups whose weights have changed.

Monitor and make adjustments

The target values are revised annually, at the monitoring stage, in case of :

- adding a new indicator(s);
- significant underachievement of the target value by most TCs (90% and above);
- full achievement of the target value by all TCs.

Annexes

**Annex 01.
Recommendations on Risks
Management**

Recommendations on risks management

#	Description of risks	Risk level	Recommendations
1	Risk of unavailability of the parties involved in the measurement due to martial law/epidemiological situation/dismissal of employees/vacations	High	Identify back-up experts to participate in the measurement
2	Risk of data inaccuracy	High	Conduct a mandatory verification at the level of TC and third parties
3	Risk of insufficient communication and the local government's low interest in the measurement	High	Appoint responsible coordinators at the local government level, develop a communication plan and regulations to use the Index, hold a kick-off meeting
4	Errors in names of files for collecting indicators from TCs and third parties	High	Reconcile the data file names with the same stored in the libraries of TCs and third parties; automate this process in the future
5	Risk of breaking deadlines for collecting and processing data related to the indicators due to insufficient resources in TCs	Medium	Prior communication with TCs to establish a realistic timeframe to collect data
6	The risk of obtaining information from third parties in an inappropriate format/structure or without specifying the TCs	High	<ol style="list-style-type: none">1. Agree with third parties on the structure, form, channel and terms of providing information2. Ensure that data are structured by TCs before submitting them to the Ministry of Digital Transformation
7	Risk of insufficient resources for collecting/processing/validating data from TCs and third parties	High	<ol style="list-style-type: none">1. Engage a sufficient number of Measurement Team members2. Automate collection, validation, and consolidation of information for further measurement
8	Risk of breaking the measurement timeframes due to insufficient automation of collection of indicators and the visualization tool (dashboard) for measurement results	High	<ol style="list-style-type: none">1. Engage a sufficient number of Analytics Team members2. Automate collection, validation, and consolidation of information for further measurement
9	Risk of data unavailability in most TCs and/or third parties	Medium	<ol style="list-style-type: none">1. Exclude the indicator from the calculation of the Index2. Reserve for future measurement

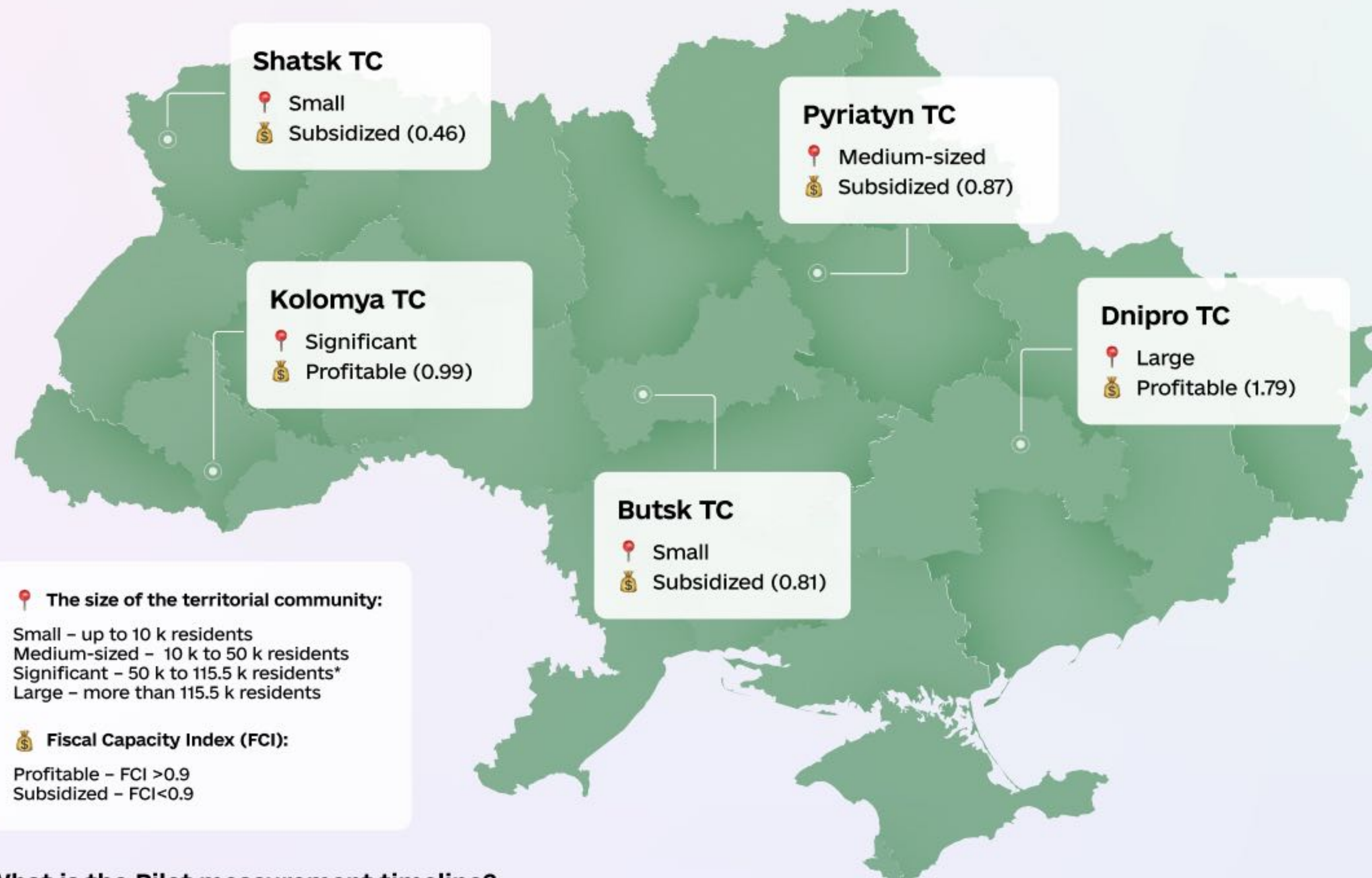
Risk level:  Low  Medium  High

Annex

Annex 02. Pilot Measurement Results

Five TCs of the TCDTI testing

Who are the Pilot measurement participants?



📍 The size of the territorial community:
 Small – up to 10 k residents
 Medium-sized – 10 k to 50 k residents
 Significant – 50 k to 115.5 k residents*
 Large – more than 115.5 k residents

💰 Fiscal Capacity Index (FCI):
 Profitable – FCI >0.9
 Subsidized – FCI <0.9

For the purpose of testing the TCDTI, we selected pilot TCs of different types (zones, sizes) and located in different geographies:

1 large – Dnipro TC
 1 significant – Kolomya TC
 1 medium-sized – Pyriatyn TC
 2 small – Shatsk TC, Butsk TC

What outcomes are expected from the Pilot?

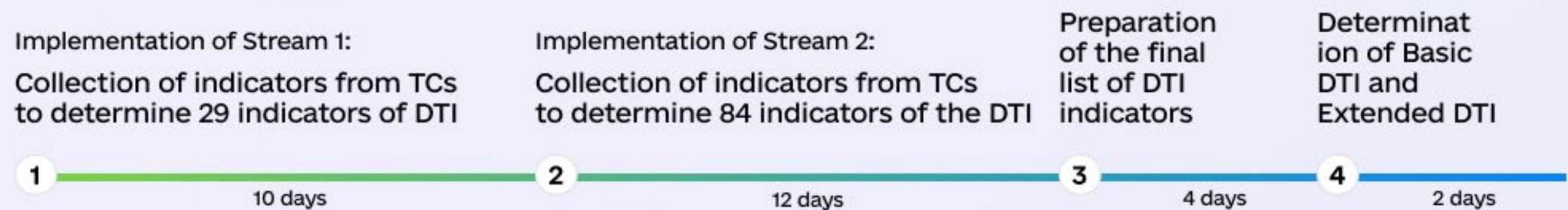
01
Testing of the TCDTI methodology and, if required, making changes and adjustments to:

- List of indicators
- Calculation formulas
- List of indicators
- and others
- Indicator components

02
Identification of bottlenecks and obstacles in obtaining the information necessary to measure the progress of TC in the future

03
Searching for ways and sources of obtaining information in the future

What is the Pilot measurement timeline?



* The minimum number of residents in the regional center is determined based on the statistics data as of the start date of TC DTI measurement (115.5 k residents as of 23 Feb 2021)

Results of the pilot TCDTI testing in five territorial communities for 2021

100 is the maximum score for mandatory quantitative indicators for which the pilot testing was performed*

54

Dnipro TC
Large

37

Kolomyia TC
Significant

34

Pyriatyn TC
Medium-sized

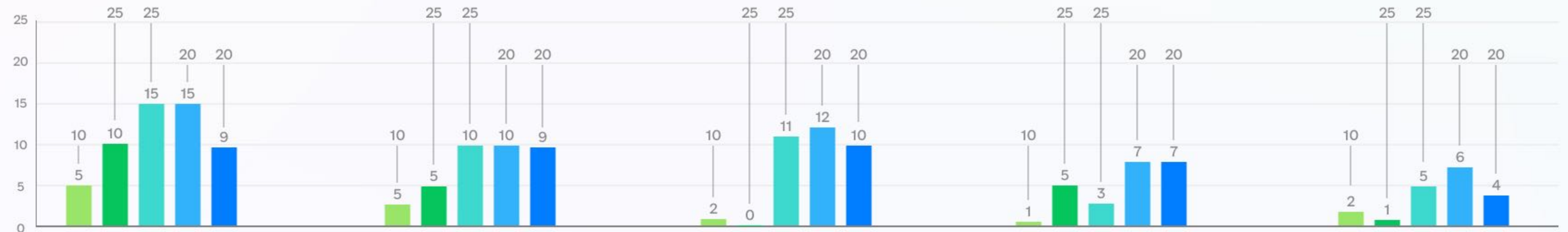
22

Butsk TC
Small

18

Shatsk TC
Small

Impact of groups on the resulting Index**

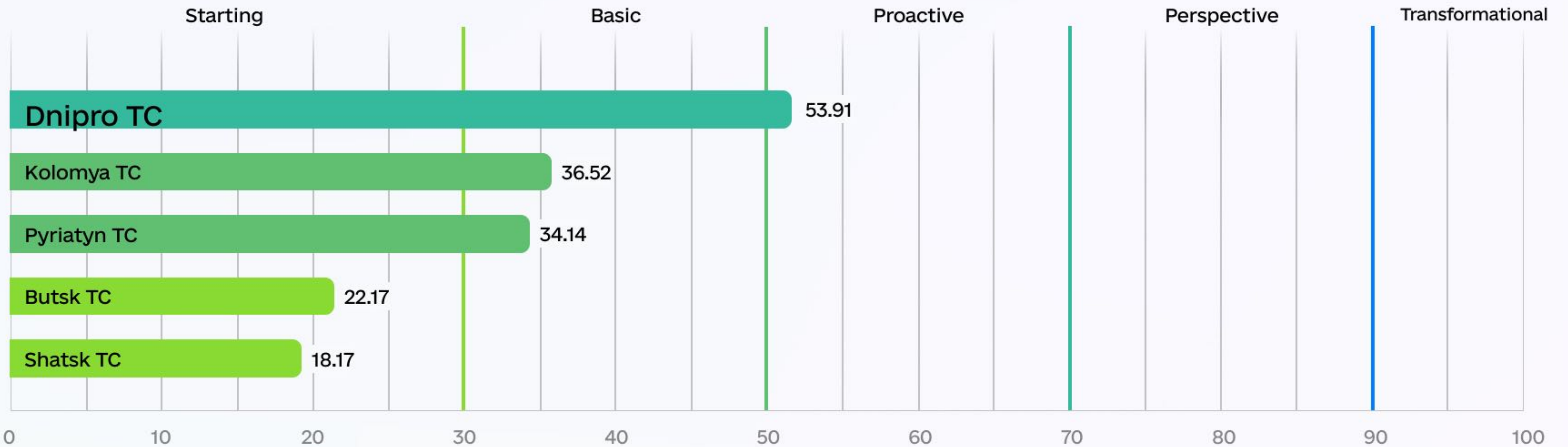


● Digital economy in TC
 ● Development of digital skills of the population
 ● Digital infrastructure in TC
 ● Digitalization of public services
 ● Digital transformation of local governments

* Pilot testing was performed to check the basic scoring approach. Some indicators were not included in the pilot measurement

** The graphs present the weighted results by the groups. Given the different weights of groups, the data reflect the impact of each group on the Index, but cannot be used to compare different groups among themselves

The TC's digital maturity level



Key conclusions:

Most of the TCs that took part in the pilot measurement obtained the TCDTI results indicating a Basic and Starting level of maturity.

Small TCs have a lower level of digitalization compared to other communities in the pilot measurement; this may be due to a lower demand for digitalization in such communities given they have a smaller number of residents.

The largest scores are obtained by TCs in groups that measure the digitalization level in the public sector (provision of public services, functioning of the local government).

Groups that measure the digitalization level in the areas that involve the interaction with the local government and are not directly impacted by the local government (the level of digital skills of TC's residents and the level of digitalization of business) have lower scores compared to other subgroups.

#DigitizeUkraine



Ministry
of Digital Transformation
of Ukraine



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development
and Cooperation SDC



East
Europe
Foundation

Deloitte.