

2022 POSTAL DEVELOPMENT REPORT

Postal journey towards
a sustainable future



UPU

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LIST OF FIGURES

Figure 1	Global 2IPD score distribution	9
Figure 2	Growth trends and forecasts for domestic letter and parcel post 2019–2022	10
Figure 3	Statistical relationships between letter post and parcel post	12
Figure 4	2021 2IPD scores by region	21
Figure 5	Global postal development level distribution by region	22
Figure 6	Distribution of 2021 2IPD scores by region	26
Figure 7	2021 postal development catch-up countries	30
Figure 8	Postal development and reliability catch-up	30
Figure 9	Average delivery time per region over time	31

LIST OF TABLES

Table 1	UPU postal development levels	15
Table 2	Postal development levels and their corresponding 2IPD scores	15
Table 3	The 4Rs of the 2IPD	16
Table 4	Reliability catch-up stars	32

Table of contents

Executive summary	6
Introduction	8
Latest trends in the global postal sector	10
Global letter-post volume declines are easing	11
Letter-post losses from higher parcel-post gains are non-linear	11
Measuring global postal development: (re)introducing the 2IPD methodology	13
Challenges of a global “like for like” comparison	13
Incremental, achievable levels of development – not a race to the top	14
A transparent, equitable and inclusive index for measuring postal progress	14
Peer group approach to analyzing 2IPD scores	18
Postal development levels across regions and countries	20
Nearly half the countries achieved moderate or low 2IPD scores	20
Global reliability score distribution	23
Global reach score distribution	23
Global relevance score distribution	24
Global resilience score distribution	24
Postal development gaps between regions and countries: a distribution analysis	25
Postal sector leaders	27
Leaders in postal excellence	27
Regional champions	28
Postal development convergence worldwide: a catch-up assessment	29
Green postal development: 2IPD insights for better postal emissions measurement	33
Conclusion	35
List of annexes	36
Annex 1 Postal development levels (PDLs) – country and regional breakdown	37
Annex 2 2IPD results across postal development levels (PDLs)	38
Annex 3 2IPD 4R components – regional distribution	49
Annex 4 Postal reach, relevance and resilience “catch up” scores	53
Annex 5 Postal carbon footprint by 2IPD sub-scores on reliability, reach and relevance	55
Bibliography	58
Disclaimers	58
Acknowledgements	58



EXECUTIVE SUMMARY

The 2021 Integrated Index for Postal Development (2IPD) provides the most comprehensive view on current global postal development.

Relying on a unique combination of postal big data and statistics made available by 172 countries, it paints a picture of an asymmetric state of postal development across the world.

Based on the analysis of 2IPD scores, we have peer grouped and categorized countries into 10 postal development levels. A clustering analysis reveals that a relatively large number of countries are classified in low or lower-middle postal development groups, highlighting significant postal service development gaps between nations.

The key takeaways of the 2022 Postal Development Report are as follows:

2021 was a relatively positive year for postal development worldwide. Quality of service has substantially improved since postal services were hit by the waves of the COVID-19 pandemic.

Structural declines in domestic letter-post volumes are slowing down for the first time in a decade and domestic parcel post is pursuing its steady growth. Many designated operators should benefit from profitability increases in these circumstances as well.

A majority of countries were able to make progress, at varying speeds, towards matching the performance of the best-in-class postal operators. Six countries achieved the highest level of postal excellence – Austria, China (People’s Rep.), France, Germany, Japan and Switzerland – with the highest 2IPD score going to Switzerland for the sixth consecutive year.

Some countries are progressing faster than others. Armenia, Egypt and Estonia achieved record 2IPD score progressions in 2021. Other regional champions such as Saudi Arabia, Cameroon and Colombia made significant advances, and even leapfrogged, in terms of postal development levels.

Nevertheless, postal development in terms of reliability, reach, relevance and resilience remains skewed towards lower postal development levels thereby generating challenges across the global postal network in the provision of international postal services. This underscores the intuition that the postal network is only as strong as its weakest link.

International postal connectivity was negatively impacted in 2021 even leaving some countries relatively disconnected from the rest of the global postal network. This could eventually undermine its value proposition, since universal access to international logistics services is critical in a time of continuous cross-border e-commerce growth.

The relevance of postal services should be further strengthened. Many countries ought to revisit their postal business model and quickly adapt it to the needs of the next generation of postal customers. Commercial success can be exponential if action is taken at the right time in the right direction.

Progress can only be built in a sustainable way to preserve our planet. Reducing the postal carbon footprint will be essential to stay on a successful postal development path in the coming decade. In this respect, the ZIPD components can provide insights for the preparation of mitigation plans to avoid negative environmental impacts of postal activities.

Finally, greater progress by all and for all is only feasible if UPU member countries intensify their level of collaboration in the area of data sharing and, together, deliver the power of collective postal intelligence as a global public good.



INTRODUCTION

Posts are some of the most essential engines for sustainable growth and inclusion in today's global digital economies. Every day, more than five million postal employees worldwide contribute to building a prosperous, inclusive and equitable future for all of us.

In 2020 and 2021, the global postal infrastructure played a critical role by enabling governments to better respond to COVID-19 pandemic challenges. Postal resilience – the strongest component of the Integrated Index for Postal Development, or ZIPD – defined the postal network during this time and reinforced its role in enabling a modern, equitable society.

Postal resilience, for serving society beyond times of crisis, needs to have at its foundation modern and reliable postal services that better connect different parts of the world. Posts need to be resilient by leveraging new business models and meeting the needs of a wider variety of customer types and demographics. The next generation of postal services was probably born during the COVID-19 crisis, and the sector has already embarked on its next postal development journey.

However, not all Posts are on an equal footing at the start of this new journey. As mapped by the ZIPD scores, (Figure 1) a large postal divide exists between countries. We find asymmetries in postal development levels for three out of the four main components of the ZIPD index – the postal reliability, reach and relevance dimensions.

Not all news is bad. We find that some postal operators are already leapfrogging their way towards the next generation of postal services. They have made great advances in postal development scores, underpinned by bold changes in their business and operational models. These resilient, forward-looking Posts have adapted to their national development circumstances and are paving the way for their country's socio-economic development success.

As one can only improve what can be measured, the ZIPD aims to deliver a data-driven roadmap for postal success worldwide.

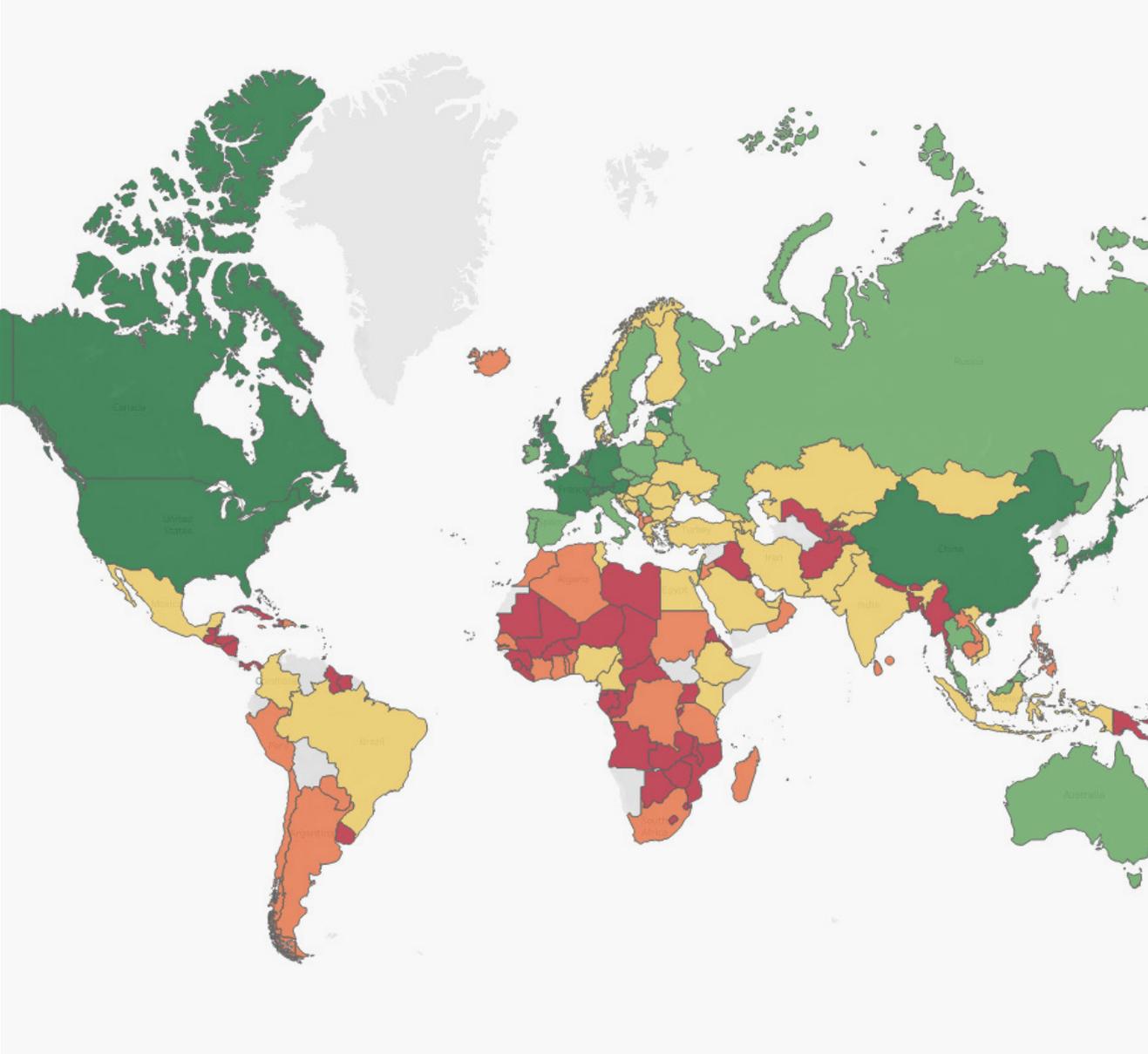
Increased data sharing with all postal sector stakeholders will further improve the quality of postal development measurement, thereby strengthening the collective value delivered by Posts in the digital economy and society. Data sharing is particularly important to enable the sector's

response to climate change. A data-driven strategy is essential to substantially mitigate and ultimately eliminate the postal carbon footprint. The ZIPD can fill critical data gaps in measuring global postal emissions and contribute to helping less advanced postal operators better measure their carbon footprint and set ambitious emission reduction goals.

As the global postal network is only as strong as its weakest link, this year's Postal Development Report represents a call for governments to renew their commitment to the global postal network and empower their designated operators (DOs) to become best-in-class providers of postal services.

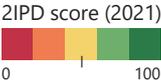
This year's Postal Development Report represents a call for governments to renew their commitment to the global postal network and empower their designated operators (DOs) to become best-in-class providers of postal services.

Figure 1: Global 2IPD score distribution



2021 2IPD MAP

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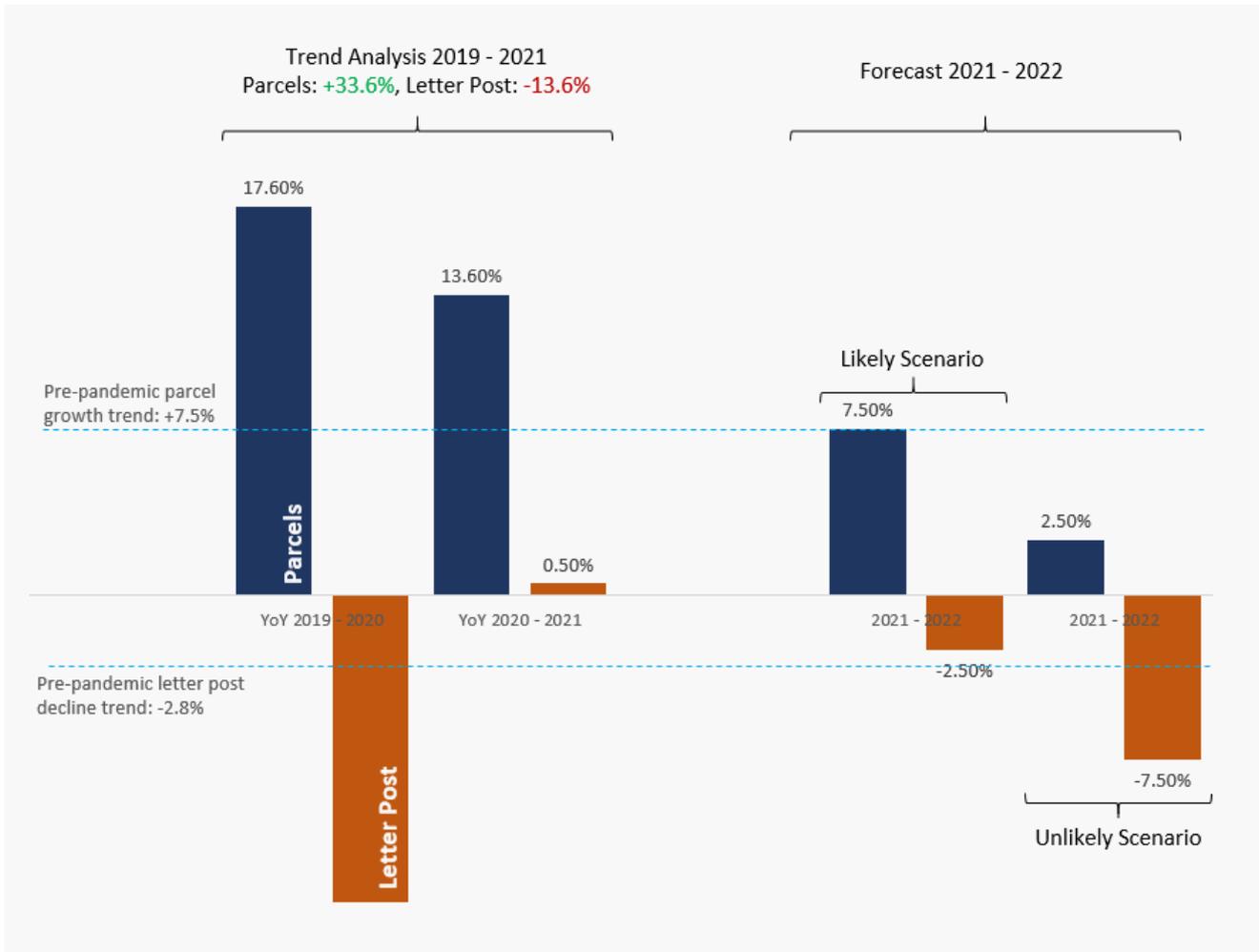
LATEST TRENDS IN THE GLOBAL POSTAL SECTOR

Derived from a combination of 2021 postal big data and 2020 postal statistics, the 2021 UPU 2IPD scores evaluate the state of postal development across the world.

We present the 2021 2IPD scores in the context of a very fast-evolving global digital economy environment. Over the course of the last two years, global consumer behaviour was heavily influenced by several waves of COVID-19-

induced lockdowns despite extensive vaccination campaigns in many countries. Our data analysis is pointing to a partial return to pre-pandemic online shopping growth trends in several countries. Under these circumstances, we present recent key insights from UPU postal statistics and economic research. These insights will provide the context for interpreting the latest 2IPD results.

Figure 2: Growth trends and forecasts for domestic letter and parcel post 2019-2022



Source: Universal Postal Union, 2022

GLOBAL LETTER-POST VOLUME DECLINES ARE EASING

According to our most recent estimations, global postal revenues stemming from parcels and logistics have reached a tipping point where they are larger than letter-post revenues for the first time as recorded in 147 years of UPU postal statistics.

With steady e-commerce growth driven by COVID-19 restrictions, global domestic parcel volumes increased by 33.6% between 2019 and 2021. The highest year-on-year growth rate ever recorded for the domestic parcel-post stream in UPU postal statistics was achieved in 2020, with a 17.6% increase globally; this growth continued into 2021, with 13.6% year-on-year growth – well above the pre-pandemic 7.5% yearly growth trend (See Figure 2).

Unless macroeconomic conditions further worsen, we forecast domestic parcel-post volumes to reach high single-digit annual growth rates in main markets in 2022, consistent with a global forecasted parcel volume growth rate of approximately 7.5%.

As expected with the huge economic slowdown, global domestic letter-post volumes recorded an overall decline of 13.6% between 2019 and 2021 – a record in mail volume losses in the current century. However, the volume increased marginally, by 0.5%, over 2021 compared with the previous year – representing the single largest increase in the last 15 years.

We forecast a small single-digit decline for 2022, around 0.3% below the pre-pandemic 2.8% yearly decline trend. From our analysis, direct marketing and advertising mail seems to have started its recovery, signalled by 4% year-on-year growth between 2020 and 2021, thus continuing to help stem letter-post volume declines brought about by the negative impacts of digital substitution on commercial letter-post transactions.

LETTER-POST LOSSES FROM HIGHER PARCEL-POST GAINS ARE NON-LINEAR

After modelling and analyzing pre- and post-pandemic changes in domestic letter-post and parcel-post volumes between 2019 and 2021, we find that there is a median loss of 8.8 letters for each additional domestic parcel-post item sent during this period.

This means that for each extra parcel delivered as a result of the change in online shopping behaviours, 8.8 letters are lost, or equivalently, a postal revenue loss can be expected if the average price for a domestic parcel-post item is not 8.8 times the average price for a domestic letter-post item at least.

However, our analysis has identified a remarkable, new, non-linear statistical relationship between letter-post decline and parcel-post growth.

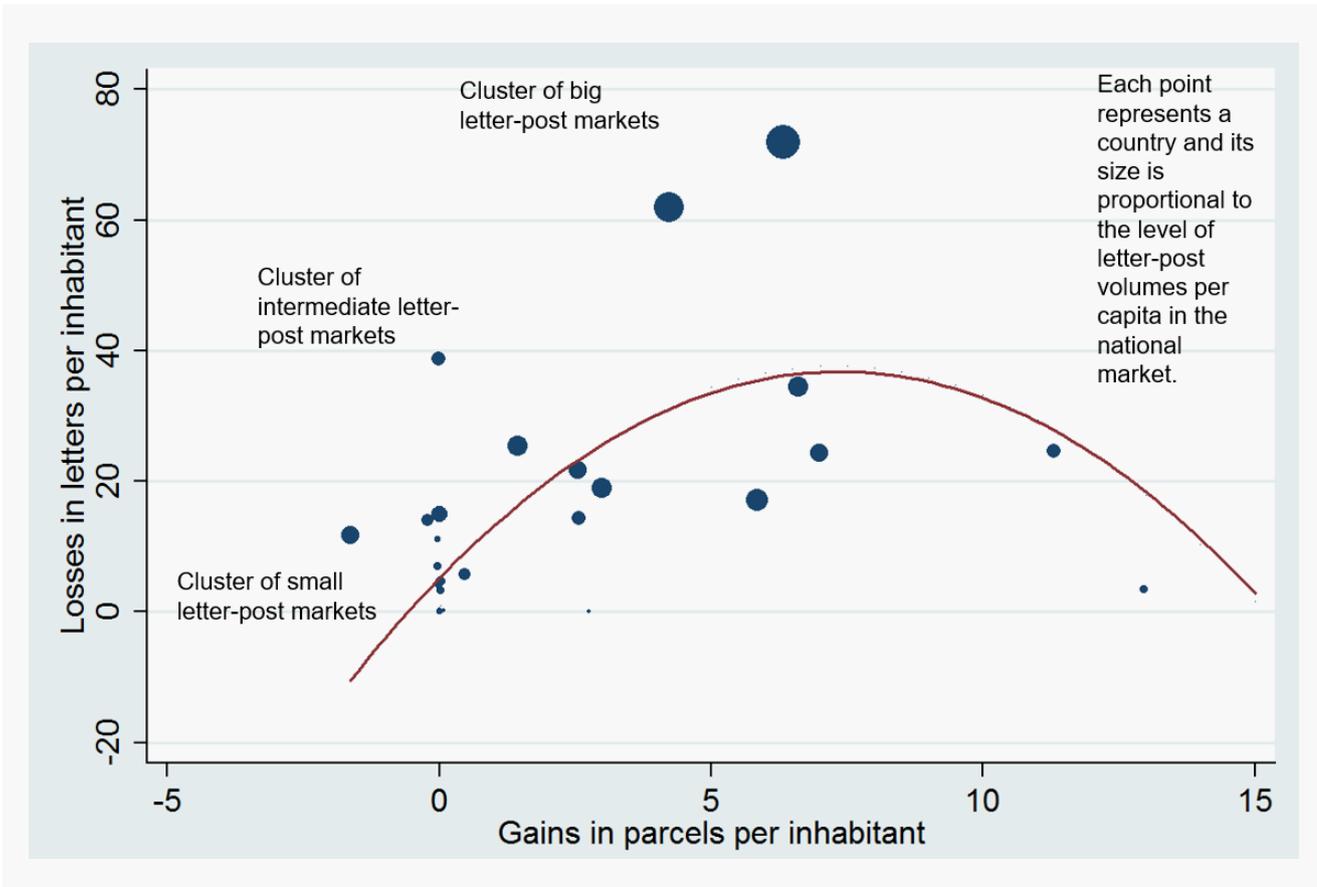
The non-linear trend begins with an inverse relationship, where the higher the number of additional parcels per capita, the higher the loss in terms of letter volumes per capita (see Figure 3). The reason for this was that gains in parcels per inhabitant also captured the acceleration in digitalization of the economy and the resulting e-commerce growth during the pandemic.

However, once a critical threshold value was reached in terms of lost letter items per parcel gained, the statistical relationship between the two variables became negative – after an estimated seven additional domestic parcel-post items per inhabitant, the declines in domestic letters per capita were decreasing.

Almost no further loss in letter-post volumes occurred once the increase in parcel-post items reached the estimated threshold of 15 additional parcels per capita. In 2021, we observed that the largest letter-post markets in the world were close to this turning point and could soon benefit from an easing of their letter volume declines.

Under these conditions, we anticipate that global postal profitability might improve, since the steady growth in parcel volumes would not be partially offset by the letter-post volume and revenue losses anymore.

Figure 3: Statistical relationships between letter post and parcel post



Source: Universal Postal Union, 2022



In 2021, we observed that the largest letter-post markets in the world were close to a turning point and could soon benefit from an easing of their letter volume declines.

MEASURING GLOBAL POSTAL DEVELOPMENT: (RE)INTRODUCING THE ZIPD METHODOLOGY

CHALLENGES OF A GLOBAL “LIKE FOR LIKE” COMPARISON

Postal development levels are heterogeneous and difficult to measure by nature. Measuring the levels of global postal development is a true challenge that stems from multiple causes. To start with, postal business models vary considerably across the world, which makes sensible international comparisons more difficult than in other industries.

Second, there is no one-size-fits-all solution to achieve postal development gains, given the differing circumstances between developing and developed nations – each with their own postal service cultures and ways of organizing their postal market.

Third, the availability of official postal statistics is incomplete for some DOs. This is in spite of the UN mandate for the UPU to collect data for more than 100 indicators and produce official statistical information on the sector every year.

Fourth, for international postal exchanges, some DOs operate through different postal and logistics information technology systems outside the UPU’s international standards for global electronic data interchange (EDI). Bypassing the UPU standards and platforms complicates, or hinders, access to the data necessary to accurately capture postal development.

Fifth, postal executives and policymakers may have different views about what really constitute postal progress and success stories in their respective countries.

Sixth, postal sector boundaries may also change from country to country, with governments framing their regulatory approach in different ways.

And finally, the postal debate is sometimes dominated by subjective views that tend to overlook efforts to achieve data-driven policies. For all these reasons, measuring postal development will always remain an imperfect yet most needed and useful exercise.

The UPU’s ZIPD methodology enables the creation of a composite index that comprises critical factors for successful postal development – irrespective of the structural differences in postal policies and economic models between countries.

The ZIPD highlights the most striking differences in postal achievements within and between UPU regions and countries, in turn facilitating more meaningful comparisons that consider the various stages of network development. It also strengthens the UPU postal statistics insights with big data “signals” found after analyzing billions of international data exchanges.

Above all, it provides all postal sector stakeholders with a starting point for well-informed discussions and data-driven policymaking, particularly for those countries that suffer from the “postal divide” and lower data intelligence capabilities.

INCREMENTAL, ACHIEVABLE LEVELS OF DEVELOPMENT – NOT A RACE TO THE TOP

The main goal of the 2IPD methodology is to identify the level of postal development for each country that regularly makes data available to the UPU data and statistical systems. A total of 172 countries did so in 2021.

Countries that annually provide the UPU with accurate data and statistics regarding their postal activities not only allow themselves to be reliably and independently benchmarked each year, but also enable other countries to measure their respective progress in their postal development journey.

Data gathered by the UPU is a valuable public good for postal development worldwide. Every single additional data point in the UPU data systems or postal statistics is equivalent to one more step in the production of key postal knowledge for progress by the less-developed Posts.

With this unique wealth of industry data, the UPU has identified 10 postal development levels (PDLs). We ranked countries with their peers and classified each according to one of these 10 levels – based on their respective 2IPD scores.

Before describing the main components in the computation of the 2IPD scores, we must explore and introduce the PDL concept used in this report.

The PDL approach classifies countries according to 10 postal development categories – from level 1 to 10 (Table 1). These levels correspond to clusters of postal development that were statistically identified based on the analysis of the 2IPD scores.

PDLs are determined based on the 2IPD scoring method. Scores result from the quantitative evaluation of each postal operator's performance in the key components of postal development – postal reliability, reach, relevance and resilience (Table 3).

The main methodological principle consists in gathering all data and statistics available for a particular DO; identifying possible data inconsistencies across the postal development components (that might bias the score); and eliminating, to the extent possible, this risk. This data integrity exercise enables the use of data available for each operator with greater confidence.

The major hurdle in conducting this exercise remains the partial availability of data and postal statistics for some operators. Therefore, some 2IPD results should be taken with this note of caution. We expect to overcome these potential pitfalls in future releases of the 2IPD, with the use of advanced artificial intelligence and machine learning algorithms.

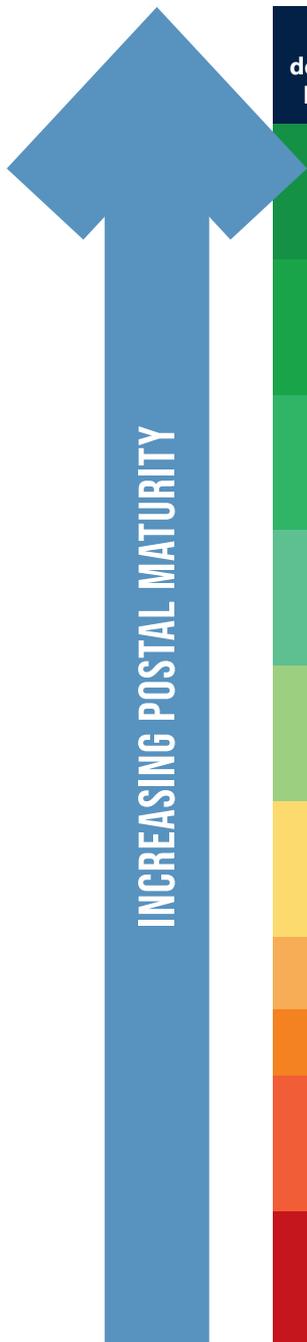
A TRANSPARENT, EQUITABLE AND INCLUSIVE INDEX FOR MEASURING POSTAL PROGRESS

The 2IPD scoring system is built around the four key dimensions of postal development: postal reliability, reach, relevance and resilience, also referred to as the “4Rs” of postal development.

Postal reliability is the first component of the general 2IPD score. Billions of electronic data interchanges and message records (EMSEVT) that feed the global track-and-trace system were explored, treated, cleaned and analyzed at the postal item level to separate all signals from noise in the data.

This process allows us to keep the most relevant elements of information related to the speed of postal delivery, from an inbound perspective, as well as the variability in delivery times identified in the letter-post, parcel-post and EMS streams. In certain cases, customs clearance times also impacted the results of this analysis since the delivery of some items can be substantially delayed through customs procedures in some countries.

Table 1: UPU postal development levels



Postal development level (PDL)	COHORT CHARACTERISTICS
10	This is the highest level of postal success that can be achieved. PDL 10 represents a peer group of top postal performers whose DOs have fully leveraged the power of their postal business models and substantially contribute to their country's overall economic growth and social inclusion.
9	DOs of countries in this group are close to achieving their maximum potential. They positively impact societal development, leveraging their postal network strengths while mitigating the effects of possible remaining weaknesses.
8	With an additional step towards reaching excellence, DOs of countries at this level typically provide a greater value proposition to citizens, leveraging their postal services portfolio.
7	DOs of countries at this level have likely achieved new milestones in their postal development journey. They play a prominent role in their respective markets.
6	DOs of countries in PDL 6 are taking steps to accelerate their development. They intensively work on improving performance in critical areas to ensure consistent performance.
5	The core requirements for postal success are in play and a brighter postal future seems possible.
4	DOs of countries in PDLs 4 and 3 are approaching, at different speeds, the conditions that are necessary to serve their current and potential customers.
3	
2	DOs of countries in this group are largely focused on operational objectives. They need to undertake substantial service and business model improvements to achieve better postal prospects in the coming decade.
1	The DOs of PDL 1 countries are initiating their postal journey or are underperforming in terms of their potential. They must overcome structural challenges and modernize their postal infrastructure.

Table 2: Postal development levels and their corresponding ZIPD scores

PDL	1	2	3	4	5	6	7	8	9	10
ZIPD score	0.0-8.8	8.9-18.8	18.9-28.8	28.9-38.8	38.9-48.8	48.9-58.8	58.9-68.8	68.9-78.8	78.9-88.8	88.9-100

Table 3: The 4Rs of the 2IPD



Prior UPU research on predicting delivery times and estimating the date of arrival of international postal shipments shows the importance of these signals in building more predictable delivery services and improving the customer experience.

The 2IPD algorithm for postal reliability attributed a maximum score of 100 to the country that was identified as the best performer in 2021, securing the highest level of quality of service for its customers. The least performing countries with the lowest postal reliability level received a score of 0. The rest obtained intermediate scores according to their relative postal reliability achievements in 2021.

A score higher than 70 usually signals that a country is meeting the conditions for postal development in terms of service reliability.

Postal reach is the second main component of the 2IPD scoring system. Millions of EDI messages related to international postal dispatch information (PREDES) undergo a statistical process and treatment similar to the one applied for the postal reliability component (as described above).

The purpose of this process is to measure the intensity of international postal connectivity, from an outbound perspective. We achieve this by identifying the key nodes of the international postal network, the propensity of a DO to maintain active international postal routes, and traffic tonnage transported through these routes connecting the country to the rest of the world.

As previously highlighted in joint UPU and UN Global Pulse research (Hristova, Rutherford, Anson, Luengo-Oroz and Mascolo, 2016), the breadth and depth of the international postal network is closely related to a nation's well-being, thus underlining the importance of a global postal infrastructure for international trade development.

Moreover, as shown by Anson, Arvis, Boffa, Helble and Shepherd (2020), international postal transit times can represent a significant trade cost, impacting the evolution of international exchanges and global supply chains.

A score of 100 was attributed to the best in class in terms of international postal reach. The least connected networks received a score of 0, with all other countries getting intermediate scores depending on their level of relative performance in terms of international postal connectivity in 2021.

A score higher than 50 can generally be interpreted as a fairly good state of international connectivity for postal development.

Postal relevance is the third 2IPD component. To create this index, we combine the analysis from millions of EDI messages and thousands of UPU postal statistics records.

We assess, from a customer demand perspective, the relative success of the different postal business segments, such as the domestic letter-post, parcel post, logistics, postal financial and international postal services, as well as the provision of access to an extensive network of post offices and service points for a wide range of purposes.

The strengths of each country's postal business models are identified and compared with those of peers showing similar postal activity patterns in order to evaluate comparable postal business models. A score of 100 was assigned to the most successful postal business model in terms of relative demand levels, and a score of 0 to the most unsuccessful ones in 2021.

Given the extreme differences between the postal business achievements of the most successful postal operators and their less successful peers, a score above 20 already sends very positive signals in terms of short- and medium-run business prospects. A score below 5 should prompt the DO to critically assess its long-term business survival.

Finally, **postal resilience** is the fourth pillar of the 2IPD. Postal resilience is defined as the ability of the DO to respond to unfavourable external economic, technological, societal and environmental shocks, and by so-doing, benefit the country's development as a whole. There is strong evidence of the overall economic resilience benefits of protecting and providing opportunities to the most vulnerable parts of society through powerful postal inclusion channels.

The recent COVID-19 health crisis has largely demonstrated the postal value proposition in terms of resilience in a more volatile and uncertain world. The 2IPD postal resilience algorithm evaluates how external economic risks could be better mitigated by diversifying one's business, as well as by preserving economies of scale achieved through different postal activities.

It also assesses the postal capacity to respond to disruptive technologies with digital innovation, and looks at how the most vulnerable parts of a country's population can be better protected and given new opportunities for greater well-being with the inclusive provision of essential services such as financial services.

A wide variety of data sources, comprising hundreds of thousands of records, are treated and analyzed, including the UPU postal statistics and key UPU surveys – such as the ones feeding the Global Panorama on Postal Financial Inclusion (2011, 2016, and upcoming 2022) and the studies on innovation through digital postal services.

Joint UPU and World Bank research (see Anson, Berthaud, Klapper and Singer, 2013) has demonstrated the merits of postal networks in providing basic financial services to the most vulnerable populations. Anson, Caron and Bosch Gual (2008) have shown the positive local development

impacts of postal financial inclusion and trade facilitation policies in Brazil, with the provision of first development opportunities for micro, small and medium-sized enterprises from remote communities. This result was confirmed by an Inter-American Development Bank study in Peru (Carballo, Schaur and Volpe Martincus, 2016).

A future iteration of the 2IPD will integrate data from the UPU's carbon accounting tool (OSCAR) and social services development data in a single postal resilience data repository.

For the 2IPD postal resilience score, the country with the most resilient Post in 2021 received a score of 100, while the countries with the least resilient Post received a score of 0. Other countries obtained intermediate scores as a function of their relative resilience performance.

A score above 60 signals that the postal operator has reached high enough resilience levels to potentially contribute in a significant way to the trajectory of its country development path.

PEER GROUP APPROACH TO ANALYZING 2IPD SCORES

After the application of consistency treatments on UPU big data and the computation of the respective scores through a number of robust algorithms for each of the four main components of the 2IPD, countries' final 2021 2IPD scores were obtained by aggregating the component scores.

An equal weight is given to each of the four main components (postal reliability, reach, relevance and resilience) in the 2IPD formula. Eventually countries' score sums are normalized, with the highest value rescaled to 100 and the lowest to 0.

In order to determine each country's postal development level, critical values separating the different groups were identified through statistical analysis. The 2021 conversion table between the PDLs and 2IPD scores is shown in Table 2.

A 2IPD score equal to or above the final threshold value of 38.9 led to a classification of countries in the groups corresponding to postal development levels 5 to 10, which represent countries with upper-middle and high postal development achievements. Countries with scores below 38.9 were classified in groups corresponding to postal development levels 1 to 4, namely, those countries with low to lower-middle postal development performances.

The general 2IPD scores then allowed us to peer-group countries according to their postal development achievements into 10 groups corresponding to 10 different levels of postal development. Through this approach, countries have the opportunity to benchmark themselves with their peers in a meaningful way, and to set their next postal development targets.

Most importantly, member countries can draw insights from both their PDL and their 2IPD component scores to create a performance gap analysis for improvement.

With the right investment, technical assistance and resourcing plans, countries can create a roadmap for progress within and beyond their PDL – thus being an increasingly valuable player in the global postal network.

This unique big data approach to measure postal development also unifies, in a single framework, several theories resulting from almost two decades of economic modelling and empirical testing under the auspices of the UPU. This “knowledge for all” journey will soon be strengthened by the most recent advances in artificial intelligence and machine learning to help shape sensible and ambitious changes for the postal sector of the 21st century.

To conclude this section on the 2IPD methodology and its application to the 172 relevant countries, it is worth stressing that this unique big data approach to measure postal development also unifies, in a single framework, several theories resulting from almost two decades of economic modelling and empirical testing under the auspices of the UPU. This “knowledge for all” journey will soon be strengthened by the most recent advances in artificial intelligence and machine learning to help shape sensible and ambitious changes for the postal sector of the 21st century.

In this way, the wealth of postal knowledge, produced over the course of many years, can be used and shared with all sector stakeholders to design a better postal future.

However, improved postal data sharing by UPU member countries is critical for the success of this evidence-based approach to postal development. Governments must recognize the role of postal data as a global public good and ensure that their DOs are meeting their UPU obligations on data sharing.

A current mathematical description is available in the 2021 Postal Development Report, with technical details related to the 2IPD score calculations. An explanatory memorandum on the 2IPD score calculation will be published by the UPU towards the end of 2022.

POSTAL DEVELOPMENT LEVELS ACROSS REGIONS AND COUNTRIES

The 2021 2IPD scores show a clear divide in terms of postal development between advanced economies and most of the developing regions.

In the official UPU terminology, developed countries are classified in the “industrialized countries” (IC) grouping. The “Europe and CIS region” is made up of developing countries from Eastern Europe and the CIS. The “Arab region” comprises nations from North Africa and the Middle East. The “Africa region” corresponds to countries in Sub-Saharan Africa. The “Asia-Pacific region” covers countries of Southern and South-East Asia as well as Pacific islands. The “Latin America and Caribbean region” refers to South and Central America, Mexico and the Caribbean.

NEARLY HALF THE COUNTRIES ACHIEVED MODERATE OR LOW 2IPD SCORES

Levels of postal development vary significantly from one region to another. While countries could achieve a maximum score of 100 for their postal development achievements, we find a global median 2IPD score of 30.0 in 2021.

Almost half of UPU member countries are in low postal development groups, i.e. PDLs 1, 2 and 3.

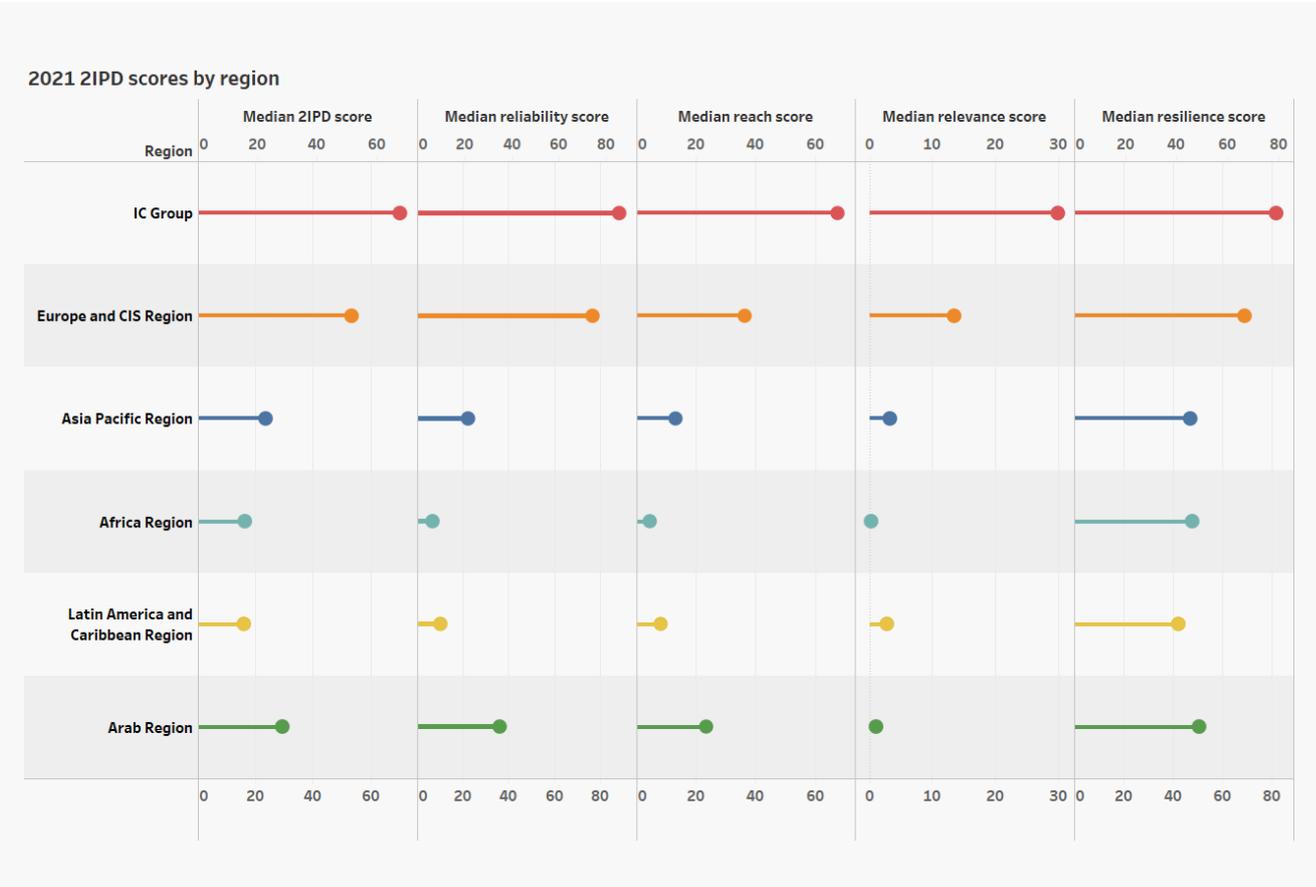
As shown in Figure 4, high-income economies (grouped in the IC category in most cases) led global postal development with a median 2IPD score of 70.2. The Europe and CIS region, with a median 2IPD score of 53.4, was also well above the world median. The Arab region score of 29.5 was the closest to the global median value, followed by the Asia-Pacific region at 23.6.

The Africa region, with a median 2IPD score of 16.3, was well below the global median score. Likewise, Latin America and the Caribbean had a median 2IPD score of 16.1, mostly driven by low postal development in many Caribbean countries.

The 2IPD score distribution is clearly reflected in the PDL clustering by region (Figure 5). A relatively large number of countries are classified in PDLs 1 and 2, while very few countries are in PDLs 7 and 8, and even fewer in PDLs 9 and 10.

ANNEX 2 PRESENTS A COMPLETE LISTING OF UPU MEMBER COUNTRIES BY 2IPD SCORES AND PDL.

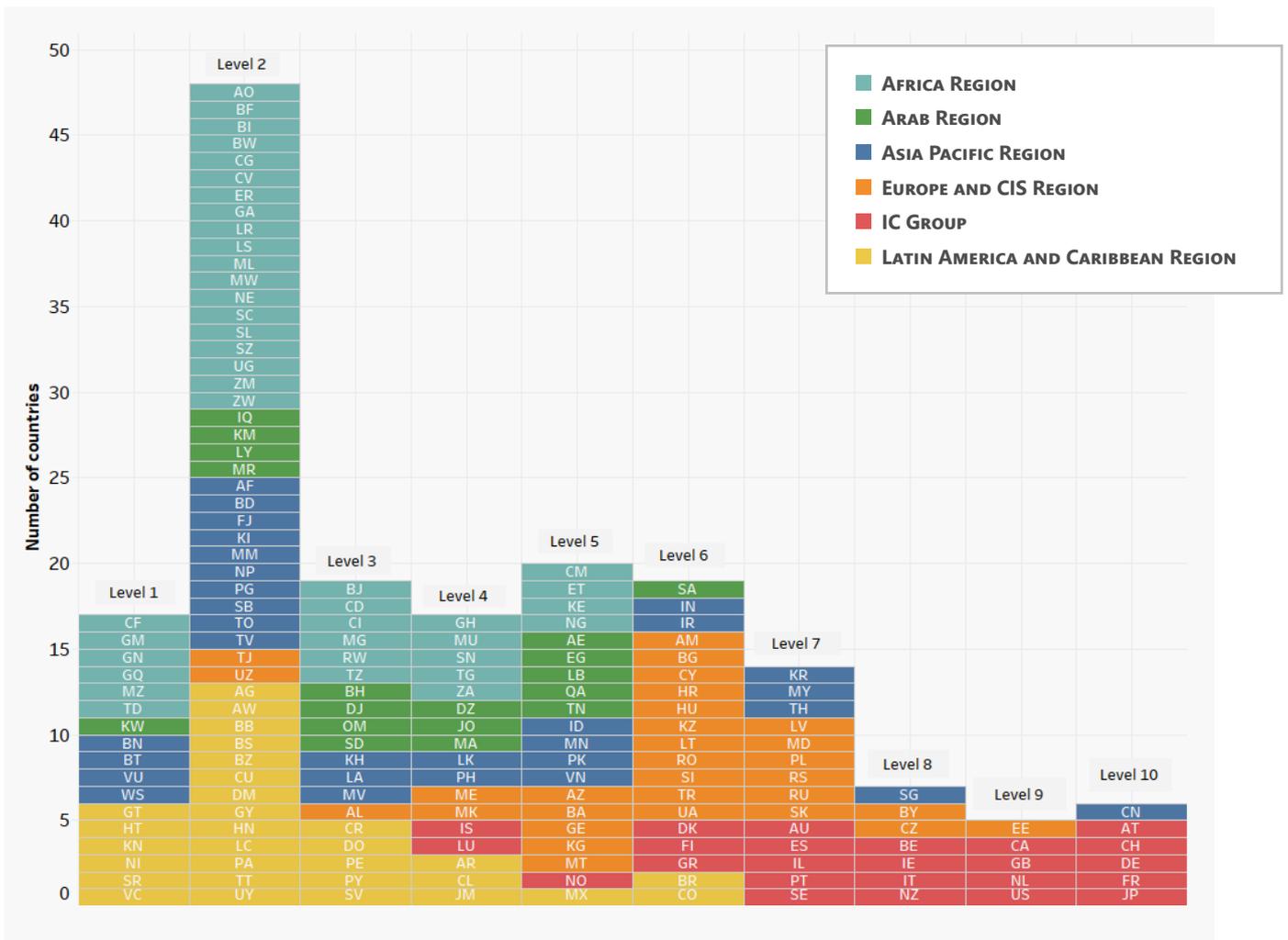
Figure 4: 2021 2IPD scores by region



Source: Universal Postal Union, 2022



Figure 5: Global postal development level distribution by region



Source: Universal Postal Union, 2022



GLOBAL RELIABILITY SCORE DISTRIBUTION

The analysis of global and regional postal reliability patterns also showed striking differences in the quality of service achievements of postal operators across the world in 2021.

In response to the pandemic-driven surge in online shopping, postal delivery networks invested in additional capacity throughout the year to better handle the surge in parcel volumes: customers benefited from improvements in speed and predictability of delivery in many countries.

However, the global median reliability score of 28.4/100 remained low (Figure 4), with the IC group and the Europe and CIS region being the only country groupings consistently achieving high median levels of postal reliability as highlighted by their scores of 88.5 and 76.8 respectively.

The other regions remained closer to or well below the world median, with median scores of 36.1 for the Arab region, 22.3 for Asia-Pacific, 10.4 for Latin America and the Caribbean, and only 6.7 for Africa.

Postal reliability was still one of the biggest postal development challenges in 2021; the results point to the continued need for policymakers and DOs to focus on quality of service issues.



GLOBAL REACH SCORE DISTRIBUTION

As for the reach component of the 2IPD, the global median score of 20.5/100 signals major international postal connectivity issues across the world in 2021 (Figure 4).

During the COVID-19 pandemic, the international postal supply chain suffered from structural changes in the ways of handling, processing and governing cross-border postal exchanges.

A perfect storm – combining changes in inbound termination charges (the terminal dues), new customs regulations and regimes in the United States of America and the European Union, and business shifts from B2C to B2B2C cross-border e-commerce models – has generated difficulties for the development of international postal reach.

From a regional perspective, the IC group achieved the highest median score with a value of 67.6, followed by the Europe and CIS region with a much lower score of 36.4. The Arab region attained a median reach score of 23.3, thus sitting above the world median. The developing regions of Asia-Pacific, Latin America and the Caribbean, and Africa obtained median reach scores of 13.1, 8.1 and 4.5 respectively.



GLOBAL RELEVANCE SCORE DISTRIBUTION

Regional differences were most acute for the postal relevance scores. Asymmetries between postal business model successes achieved by the best global performers and their peers from other regions were extreme: one of the main reasons is that success in network and platform business development is often exponential, and even more so in global crisis times when the leading market players tend to further strengthen their position.

While the global median relevance score reached the extremely low value of 3.03/100 in 2021 (Figure 4), IC group median relevance was 10 times higher with a score close to 30.

Except for the Europe and CIS region, with a median relevance score of 13.4, all other developing regions featured extremely low postal relevance scores with median values ranging from 0.3 in Africa to 3.3 in Asia-Pacific. The Latin America and Caribbean region was slightly below the world relevance median with a score of 2.7.



GLOBAL RESILIENCE SCORE DISTRIBUTION

Regional differences were the least significant for the postal resilience score values made available in Annex 3. The capacity of postal networks to maintain, preserve and adapt their activities, shock after shock, and crisis after crisis, is almost an intrinsic feature of the Post. The continuation of the global COVID-19 pandemic in 2021 allowed postal services to once again demonstrate their unique value proposition, through numerous initiatives and a systemic role in the provision of essential services for a more resilient society in crisis time.

The global median postal resilience score, with a value of 53.9/100, was the highest of the four median 2IPD component scores in the 2021 worldwide assessment of postal development (Figure 4).

The IC group led the median resilience score with a value of 81.8, closely followed by the Europe and CIS region with a score of 69.3. The Arab, Africa and Asia-Pacific regions got scores of 50.8, 47.9 and 47.1 respectively. The Latin America and Caribbean region achieved a score of 42.3, its highest score across all 2IPD components.

POSTAL DEVELOPMENT GAPS BETWEEN REGIONS AND COUNTRIES: A DISTRIBUTION ANALYSIS

We also analyzed the distribution of the 2IPD scores and related PDLs to get a better picture of the **development gaps between regions and countries**.

The median scores, presented in the previous section, **often reflect only part of the postal development story across the world**.

It is equally interesting to observe the variations in the different 2IPD component scores across regions since the larger the variability of development scores, the higher the level of difficulty to provide global customers with a more homogenous portfolio of international postal services throughout the UPU network, or to foster a greater convergence in regulations of cross-border postal services.

Similarly, the larger the postal development inequalities between countries, the more complex it becomes to optimally design future international postal exchange platforms integrating stakeholders at very different stages in their postal development journey.

In Figure 6, the box-plot analysis shows the level of dispersion of the 2021 2IPD scores around the most representative regional score. For each region, most countries' scores can be found in the range of values corresponding to the two blue "boxes", with the remaining exceptionally high or low values (i.e. the outliers) being plotted out of the boxes.

The Asia-Pacific region showed the largest dispersion of its postal development scores and is the only region in the world with countries spread out across almost all levels of postal development.

The next largest dispersion was in the IC group, which showed that, even for more advanced levels of postal development, a greater homogeneity in postal development patterns is still to be secured.

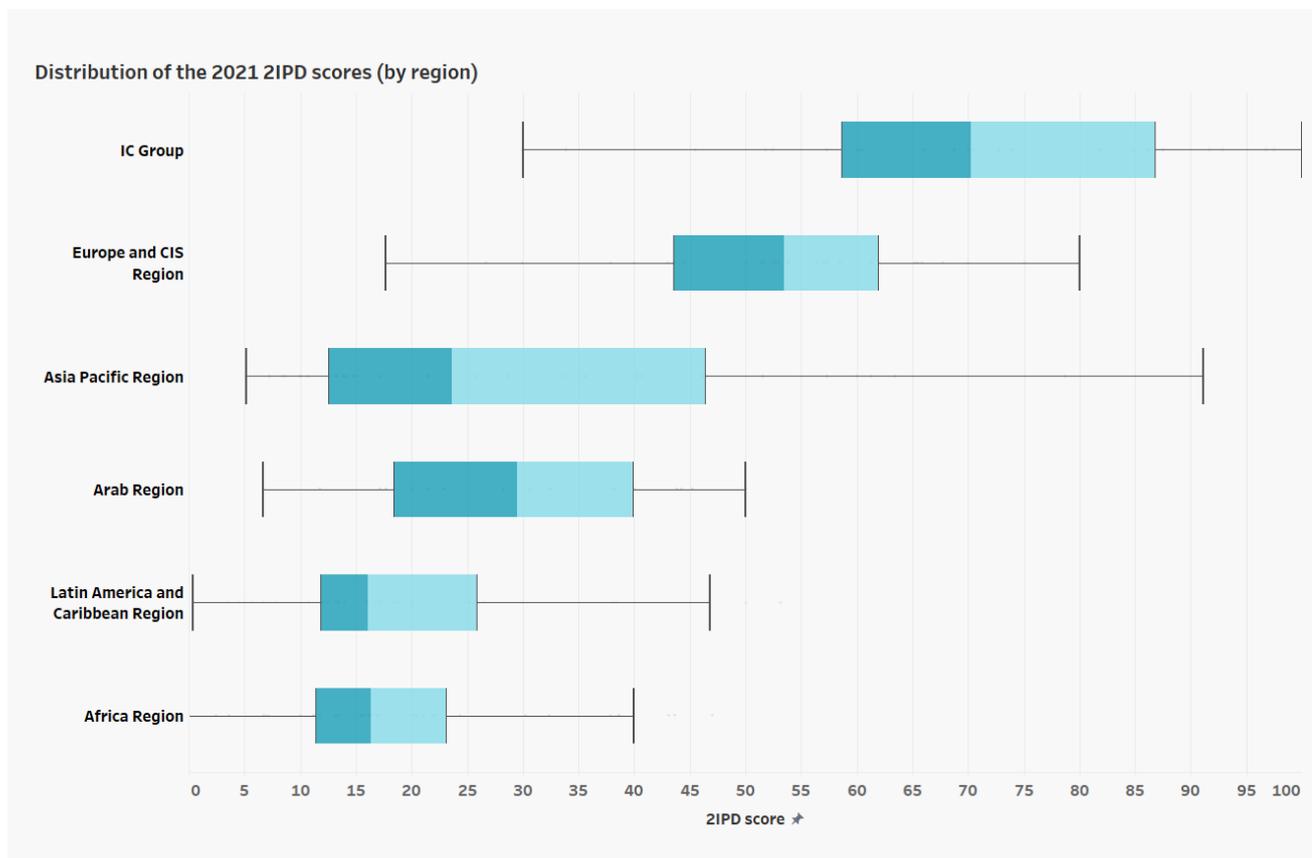
Although the Europe and CIS region showed a similar pattern of postal development among countries, a large gap between the highest and lowest postal development performers was also found. The Arab region showed a lower level of postal development heterogeneity across countries compared with the Asia-Pacific region or the IC group. Latin American and Caribbean countries as well as African ones showed more homogeneous scores within their regions of relatively low level of postal development.

If global postal development were to follow a balanced state across the world, a "postal bell curve" distribution would be expected after classifying each country in one of the 10 PDL groups. This would mean that while some countries would show some very high levels in terms of postal excellence at the one end of the distribution (on the right-hand side of the chart, Figure 5), on the lower end of it would have been just a few countries (on the left-hand side of the chart, Figure 5).

Instead, the PDL clustering for 2021 is clearly skewed towards the low or very low levels of postal development performance. This triggers huge postal development imbalances between countries.

The opportunity cost of these postal development imbalances can already be found in many past UPU activities and projects through delayed implementation, or lack of dramatic improvements of the global postal network brought about by the lack of readiness of some countries to adopt critical operational and business model changes.

Figure 6: Distribution of 2021 ZIPD scores by region



Source: Universal Postal Union, 2022

This fosters a vicious “**lack of postal development**” circle where all UPU countries remain trapped.

One can better understand the source of these global development imbalances by further examining the distribution of the postal reliability, reach, relevance and resilience achievements across countries in 2021.

Detailed figures in Annex 3 allow us to visualize the classification of countries in 10 levels of development for each of the 4R components of the ZIPD.

Postal reliability highlights the existence of two poles of development in terms of quality of service. On the one hand, a significant number of countries were shaping up to be a group having very reliable providers of delivery services, while at the other end of the distribution, an even larger group of countries remained stuck at low levels of postal reliability.

For **postal reach**, the distribution of countries is even more skewed towards the left-hand side, with a vast majority of countries suffering from low to very low international postal connectivity from an outbound perspective.

Postal relevance clearly shows that most DOs are yet to benefit from greater business development in terms of transaction volumes and revenue diversification. Only a minority of DOs are able to fully seize the exponential growth opportunities related to the digital economy in spite of the COVID-19-driven e-commerce surge.

The **postal resilience** component is the strongest contributor to a more balanced postal development across the world. This component features a more symmetric distribution of countries in the 10 different levels of development and is thus closer to the ideal bell-curve shape that should be targeted for postal reliability, reach and relevance in a rebalancing process.

However, even within this fragmented distribution we can clearly identify leaders both at a global level and within their regional peer groups, as will be shown in the next section.

POSTAL SECTOR LEADERS

LEADERS IN POSTAL EXCELLENCE

Countries that have reached the highest group, PDL 10, are the leaders in postal excellence. These countries can be considered to provide best-in-class postal services in the world.

COUNTRIES IN THE POSTAL EXCELLENCE GROUP PDL 10			COUNTRIES IN THE POSTAL EXCELLENCE GROUP PDL 10		
		2021 2IPD SCORE			2021 2IPD SCORE
	AUSTRIA	96.8		GERMANY	97.5
	CHINA	91.1		JAPAN	91.7
	FRANCE	92.9		SWITZERLAND	100.0

Notable among this peer group are:

Switzerland, which has received the highest 2IPD score in the world for the sixth time in a row, consistently holding the top spot since the launch of the 2IPD index.

China secured a 2IPD score above 90 for the first time in 2021.

WE PRESENT 172 UPU MEMBER COUNTRIES CATEGORIZED ACROSS THE 10 PDLs IN FIGURE 5 AND ANNEX 1. A COMPLETE LISTING IS PRESENTED IN ANNEX 2.

REGIONAL CHAMPIONS

Regional champions represent the best in class within their postal peer groups. While at varying levels in the PDL classification, they are the leaders within their own regions.

REGION	COUNTRY	2021 2IPD SCORE	PDL CLASSIFICATION
AFRICA	CAMEROON	47.0	PDL 5
ARAB	SAUDI ARABIA	50.0	PDL 6
ASIA-PACIFIC	CHINA	91.1	PDL 10
EUROPE AND CIS	ESTONIA	80.0	PDL 9
LATIN AMERICA & CARIBBEAN	COLOMBIA	53.2	PDL 6
INDUSTRIALIZED COUNTRIES	SWITZERLAND	100.0	PDL 10



POSTAL DEVELOPMENT CONVERGENCE WORLDWIDE: A CATCH-UP ASSESSMENT

After considering the different levels of postal development across the world and the asymmetries in DO achievements, we also analyzed the postal “catch up” process between countries.

Imbalances in postal development can only be addressed through an ambitious convergence roadmap enabling the global postal network to move to the next level of service excellence.

In spite of remaining COVID-19 challenges, 2021 was a year of convergence in postal development: 124 out of 172 countries were catching up, to different degrees, with the best in class in 2021, as visualized in Figure 7.

Africa was the region with the highest number of countries (28) catching up with Switzerland. More generally, countries were achieving the largest 2IPD score increases between 2020 and 2021.

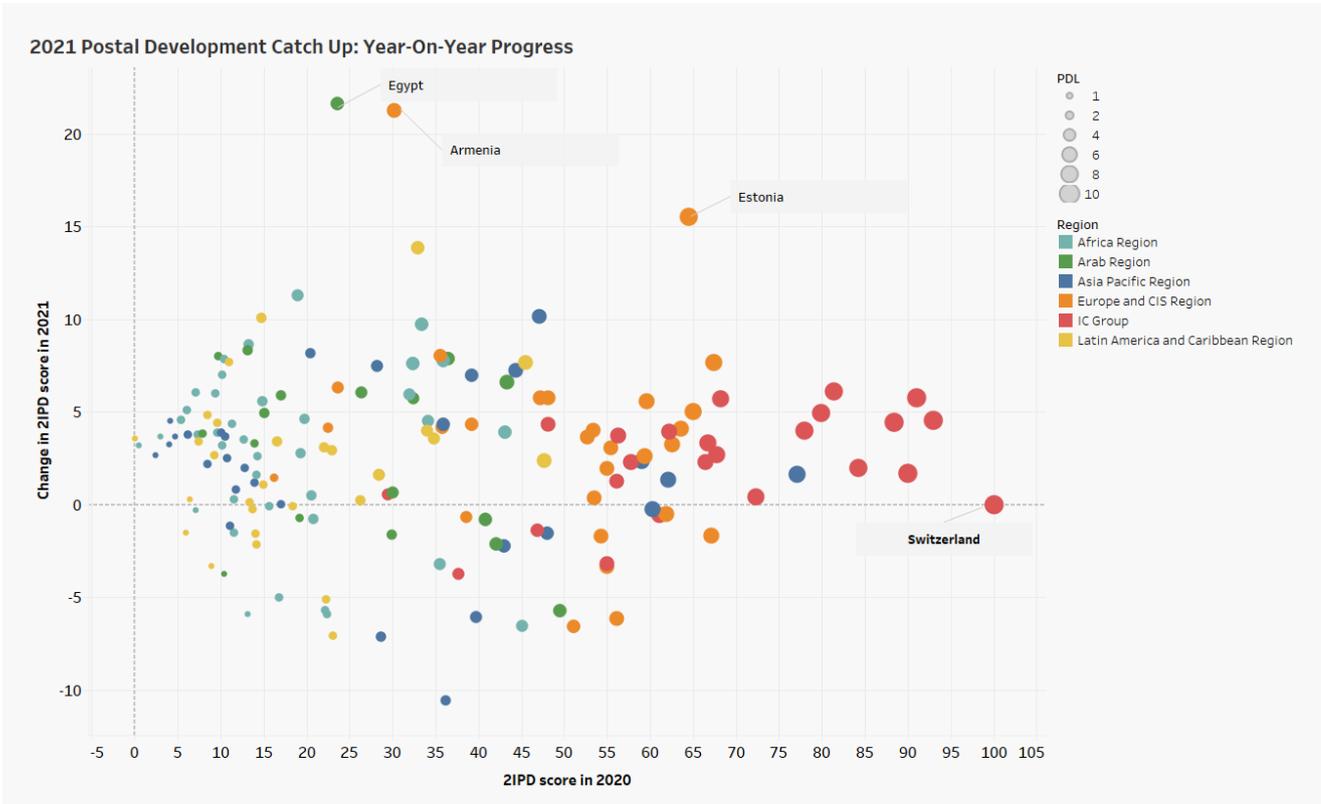
However, in spite of these positive developments, only 28 countries were progressing at a faster pace than the United States – which is progressing the most in the group of advanced economies. This meant that the postal development gap between the most developed DOs and the least developed DOs (in PDL groups 1 and 2) was actually further widening.

Armenia, Egypt and Estonia achieved the highest positive progress in their 2021 2IPD scores.

A number of other countries were moving in a similar positive direction. They were catching up with Switzerland, the global leader, as well as with at least one of the four countries with the highest 2IPD specific component scores. The leaders per 4R component score are:

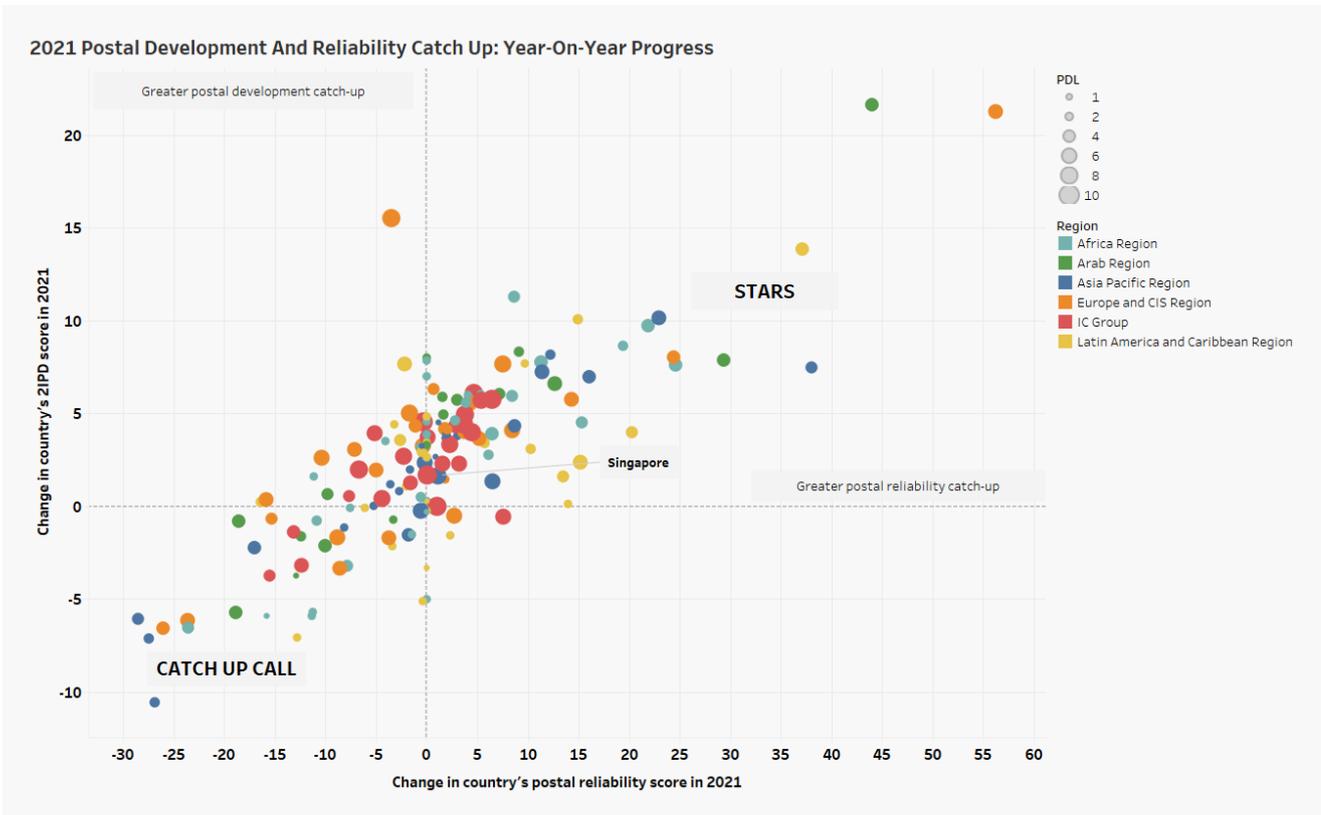


Figure 7: 2021 postal development catch-up countries



Source: Universal Postal Union, 2022

Figure 8: Postal development and reliability catch-up



Source: Universal Postal Union, 2022

We categorize countries that are catching up fast with their peers as “catch-up stars”. Postal services from these countries were usually able to combine their improvements in quality of service, international connectivity and resilience levels to move up the postal development ladder. The major source of global postal convergence in 2021 can be found in the postal reliability dimension as shown in Figure 8.

Average delivery times were improving in almost all regions, with the largest year-on-year decrease recorded in the Latin America and Caribbean region. Delivery speed has even substantially increased in the Asia-Pacific, Arab and Africa regions compared with their pre-pandemic performances (Figure 9). Investments in quality of service have started to pay off in many regions across the world.

Table 4 lists countries that were able to combine progress in terms of general postal development, as reflected by their ZIPD scores, with substantial advances in their postal reliability scores. The higher quality of service levels achieved in 2021 should eventually benefit the global postal network provided that the worsening in postal reach convergence can be fixed.

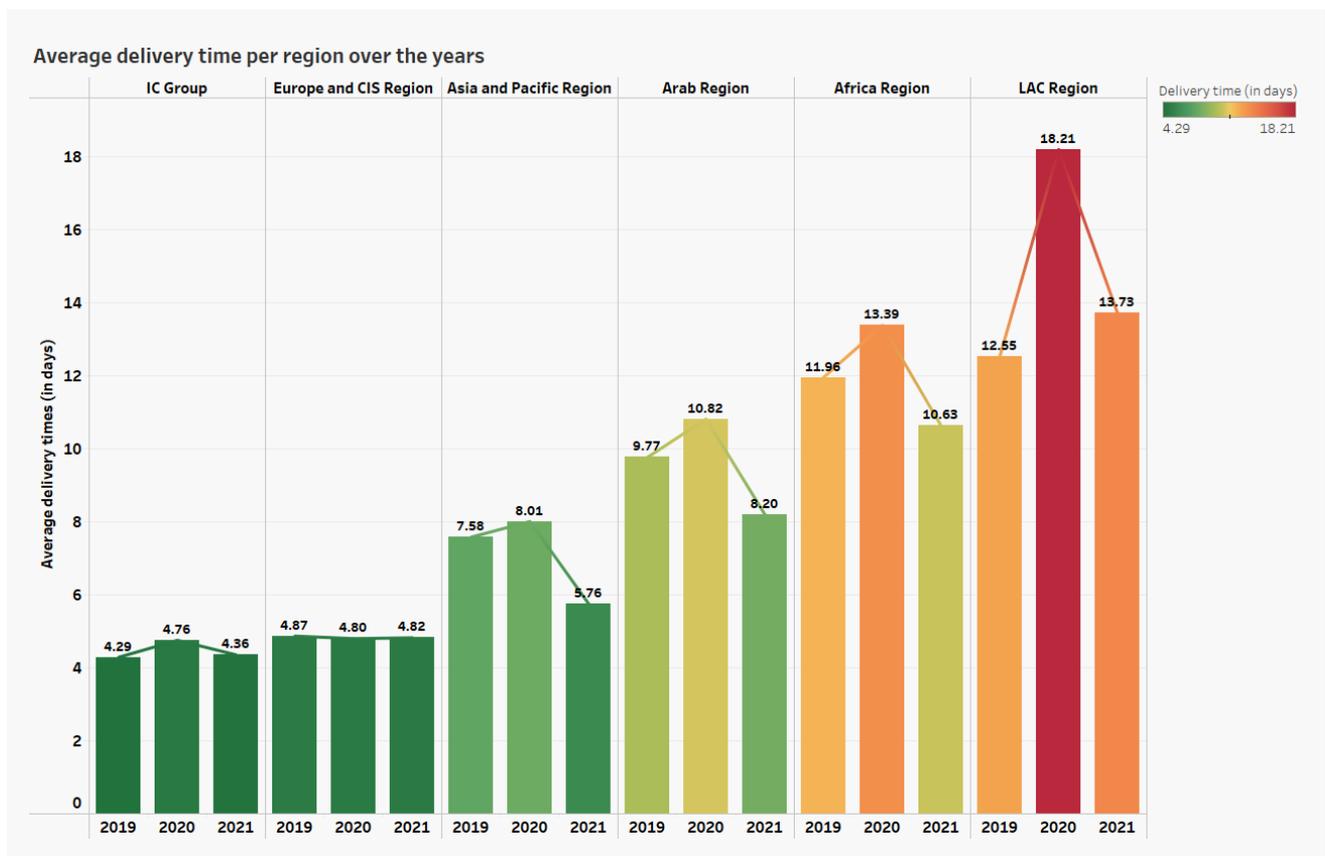
As can be seen from the figures in Annex 4, the year-on-year changes in postal reach scores were mostly negative, with few countries in the “catch-up stars” category. The reasons for this deterioration in international postal connectivity must be studied in more depth so as to understand how the international postal supply chain could be better designed in the coming years.

The catch-up process outcomes were very weak for the postal relevance dimension: only a small group of countries could be categorized as “catch-up stars”, with Egypt’s and Estonia’s stellar catch-up performance notable.

As for postal resilience, a limited number of countries were able to further improve their relatively high score, as was the case for China and Egypt.

Some countries were confronted with negative changes to their 2021 ZIPD component scores compared with the previous year, and some lost gains achieved over previous years. This demonstrates once more that, in the postal sector, progress is never eternal and can be particularly volatile in developing regions.

Figure 9: Average delivery time per region over time



Source: Universal Postal Union, 2022

Postal development efforts need to be sustained over time to maintain consistent performance improvements in the medium and long run.

It is clear that providing a stable change management framework is paramount to meeting current and future challenges. In this context, moving faster towards a decarbonized postal future will also matter for successful postal development, as discussed in the next section.

Table 4: **Reliability catch-up stars**

REGION	COUNTRY	2IPD + RELIABILITY SCORES CHANGES	PDL
AFRICA REGION	Ethiopia	32.28	5
	Kenya	31.63	5
	Dem. Rep. of the Congo	28.00	3
	Togo	19.98	4
	South Africa	19.89	4
	Nigeria	19.08	5
	Mauritius	14.33	4
	Gabon	11.39	2
	Cameroon	10.38	5
	Burkina Faso	10.11	2
ARAB REGION	Egypt	65.58	5
	United Arab Emirates	37.25	5
	Saudi Arabia	19.26	6
	Bahrain	17.47	3
	Jordan	13.21	4
ASIA PACIFIC REGION	Philippines	45.48	4
	India	33.08	6
	Pakistan	23.01	5
	Maldives	20.37	3
	Iran (Islamic Rep.)	18.63	6
	Indonesia	12.99	5
EUROPE AND CIS REGION	Armenia	77.45	6
	Azerbaijan	32.42	5
	Kazakhstan	20.10	6
	Belarus	15.20	8
	Russian Federation	12.51	7
	Slovenia	11.13	6
IC GROUP	Austria	12.18	10
	Belgium	11.10	8
	United States of America	10.76	9
LATIN AMERICA AND CARIBBEAN REGION	Mexico	50.96	5
	Paraguay	25.01	3
	Jamaica	24.32	4
	Brazil	17.60	6
	Aruba	17.42	2
	Argentina	15.10	4
	Honduras	14.13	2
	Dominican Republic	13.36	3

GREEN POSTAL DEVELOPMENT: 2IPD INSIGHTS FOR BETTER POSTAL EMISSIONS MEASUREMENT

DOs throughout the world are advancing an ambitious carbon emission reduction agenda to fight against climate change.

The UPU is currently scaling up its ambition and actions to support the transition to low-emission and climate-resilient postal operations. This is reflected in the deliverables associated with Abidjan Congress resolution C 17/2021, which include voluntary target setting for global UPU greenhouse gas emissions, and capacity building to reach these targets.

Data is central to the success of this work. First, the UPU International Bureau (IB) needs to establish a baseline for the total combined emissions of the DOs of UPU member countries. It is essential that all DOs engage with carbon accounting, ideally through the UPU's OSCAR (Online Solution for Carbon Analysis and Reporting) tool.

Secondly, the IB needs to clarify what levels of emission reduction are feasible for DOs to achieve, at different levels of postal development. Finally, annual updates on emission data will be needed to track global progress in emission reduction over time.

Currently, the UPU does not have comprehensive carbon emission data for all DOs. This is a barrier to the target-setting work of the IB. This also presents a missed opportunity for DOs, as the process of carbon accounting generates valuable summary information for DOs on their energy use and infrastructure performance.

We have therefore explored the use of 2IPD scores to fill some of these gaps, and to provide the entire postal community with a global perspective on postal greenhouse gas emissions (expressed as CO₂ equivalent).

The 2IPD methodology itself could become more comprehensive in the way it integrates DOs' decarbonization efforts in its future assessment of the postal resilience component (reflecting the benefits of increasing energy efficiency).

Therefore, for the first time, the UPU is assessing the statistical relationship between each of the 2IPD components and the level of postal carbon emissions per capita.

Leveraging the latest Scope 1, 2 and 3, anonymized, postal carbon emissions data (combining the direct and indirect emissions generated by a given designated operator for 2020), a multivariate regression analysis was conducted to test the impact that developing greater postal reliability, reach and relevance has on the postal carbon emissions in a given country.

As it can also be intuitively expected, moving to a higher PDL also leads to a higher level of carbon emissions.

Together, the postal reliability, reach and relevance scores explained almost 80% of the variance in postal carbon emissions per capita (R² of 0.77 in a multiple regression estimated with heteroskedasticity-consistent standard errors).

Our analysis, presented in Annex 5, identifies the existence of a positive and statistically significant relationship between an increase in the 2IPD postal reliability, reach and relevance scores and the level of postal CO₂ emissions per capita in a country.

Broadly speaking, it would appear that **for postal operators to achieve high reliability, relevance and reach, they currently need to emit high levels of greenhouse gases.**

This simply reflects the importance of implementing a high density of post offices and a broad and active delivery network, in order to offer postal services at an adequate standard throughout the territory. However, the key insight to be gained from this analysis is related to the range of emission values for any specific 2IPD value.

As shown by the figures in Annex 5, a 2IPD reliability score of (log) 3.5 has been achieved by a number of DOs.

Critically, some of them achieved this score with low emissions per capita (-7.5), and others with much higher emissions per capita (-4.0). This demonstrates that the correlation between emissions and 2IPD scores is not deterministic – it is not precise or set in stone.

Some countries are working to decouple this relationship by adopting greener delivery fleets and securing their electricity from renewable sources.

The graphs in Annex 5 can be used to visualize this principle; those DOs found below the regression line can be allocated to the low emissions category – achieving their 2IPD score at a low environmental cost. In contrast, those above the regression line have achieved their 2IPD score in an environmentally inefficient way.

A second insight concerns the proportional growth in carbon emissions related to 2IPD scores.

When one examines the results of the regression analysis using the different 2IPD components as the main explanatory variables in the estimated equation, it can be concluded that a 10% increase in the 2IPD reliability score leads to a 13.3% rise in postal CO₂ pollution emissions level per capita – a more than proportional increase in emissions resulting from greater speed or predictability of delivery.

Increasing postal excellence therefore currently comes with an environmental cost related to the organization of transportation through the network, particularly in the last mile.

In turn, this underlines the critical importance of integrating decarbonization into quality of service improvements to ensure more sustainable delivery services.

Another way towards greener postal development is the use of special slow delivery products that do not undermine the 2IPD reliability score.

As for postal reach, a 10% increase in the postal reach score of a country is associated with an 11% increase in its postal CO₂ emissions per capita. This indicates a need for greater efforts to decouple any growth in postal reach from increasing emissions, for example, through smarter multimodal transportation systems and greater use of low-emission freight options (e.g. rail).

A greener postal reach could therefore be achieved through innovation and intense collaboration between all postal sector stakeholders.

The correlation between the 2IPD relevance score and the postal CO₂ emissions per capita is the strongest of all. Interestingly, a 10% rise in a country's postal relevance score only generates a 7.7% increase in postal carbon emissions, that is, a less than proportional increase in terms of negative externalities related to business development.

This reveals the environmental benefits from increasing the variety of services offered by post offices. In many cases, it is possible to offer new over-the-counter services using the existing physical and digital infrastructure; growth in the relevance score can thus be achieved with relatively little increase in environmental cost.

Finally, the very strong statistical relationships revealed in this analysis could be used to support the broader UPU goal of establishing a reliable estimation of its global baseline emissions, helping to fill gaps in carbon emission data collection.

For now, the 2IPD analysis only considers CO₂ emissions to assess a country's "postal carbon emissions footprint". A broader inclusion of greenhouse gases will be done in upcoming iterations, to address the demand from member countries as outlined in Abidjan Congress resolution C 17/2021.

CONCLUSION

Postal development is a complex journey that requires accurate data, continuous measurement and consistent analysis.

The 2IPD intends to build such a framework for global postal progress given the impact of well-functioning postal services for citizens' well-being and prosperity.

Encouragingly, 2021 can be seen as a positive year for postal development across the world in **a number of areas**. The reliability of postal services increased in many countries: quality of service was higher than before the pandemic, and DOs were innovating in their way of delivering items and communicating with their customers.

Moreover, letter-post volume declines started to slow down after the most challenging decade in mail history. Combined with a steady growth in parcel volumes, these developments could move more DOs closer to greater profitability. This revenue surplus is needed to fund investments in network infrastructure and design the next generation of postal services.

In spite of these improvements in many regions, **very important catch-up challenges remain open for less-developed DOs in order to achieve greater and consistent successes over time**.

Postal development imbalances are pervasive and should impel regulators and governments to review their national postal sector policy in many cases. Yet some operators are starting to show more encouraging prospects for the coming years and are now catching up faster with their best-in-class peers.

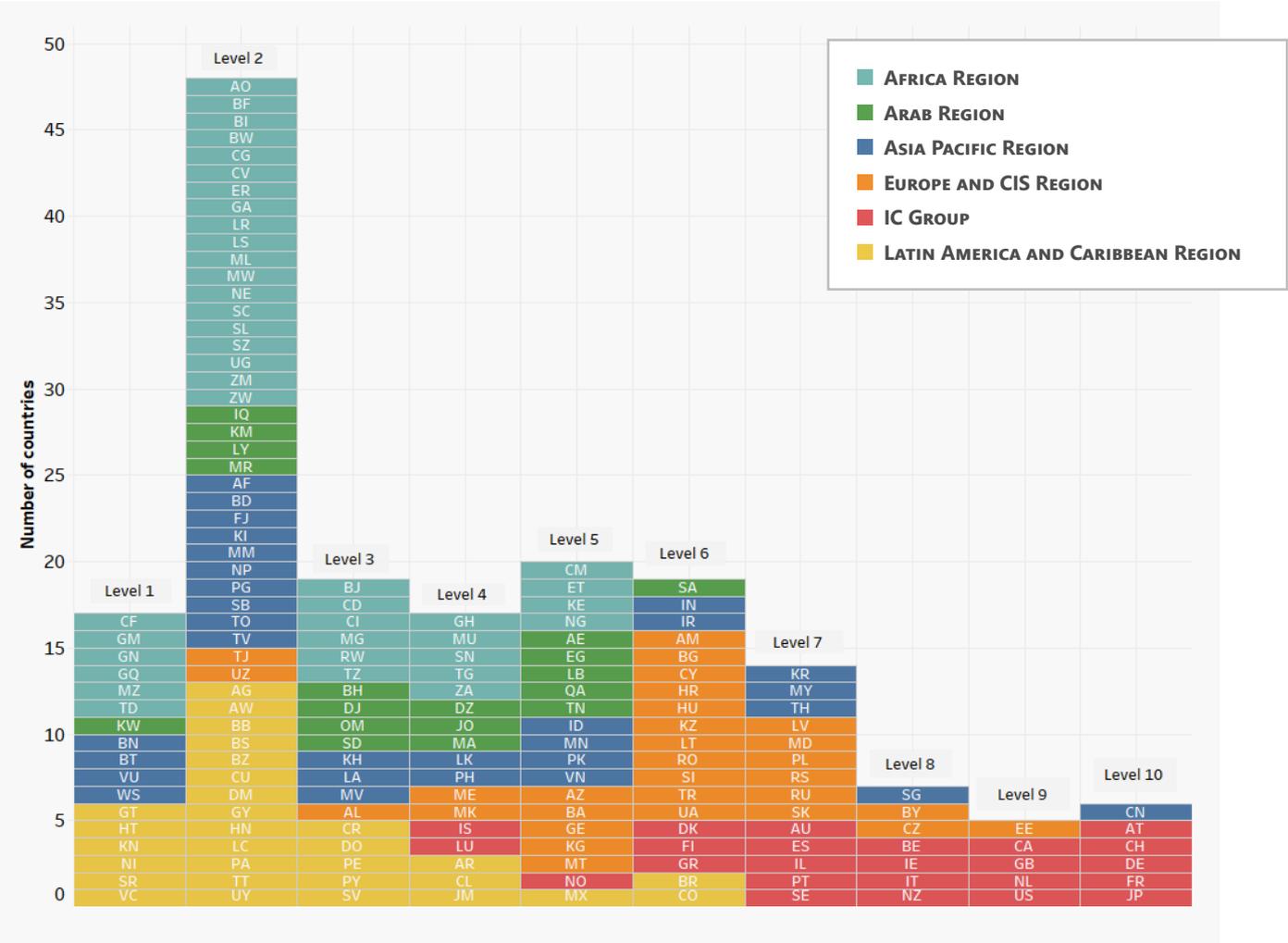
Reaching significantly higher postal development levels remains the main goal for most DOs in the world though. While the best roadmap for this purpose can vary from country to country, sustainable success is more likely through greater and greener collaboration among all postal stakeholders.

Ultimately, global sustainability for the sector will only be reached by scaling up collective data intelligence for all. UPU member countries hold the keys to unleash the collective power of their postal data to ensure an enabling policy and operational environment that delivers best-in-class sustainable postal services to their citizens.

ANNEXES



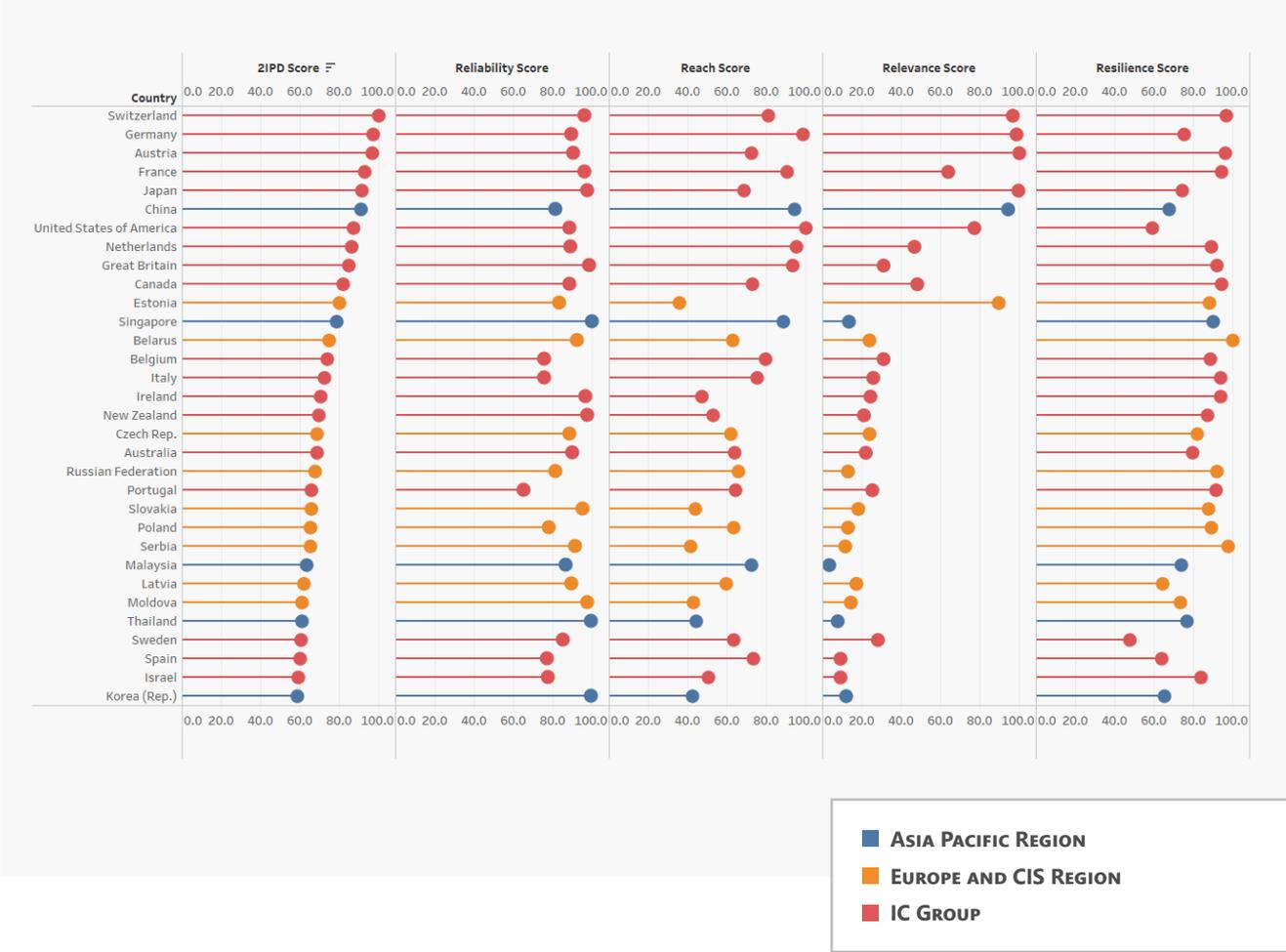
Annex 1: Postal development levels (PDLs) – country and regional breakdown



Source: Universal Postal Union, 2022

Annex 2: ZIPD results across postal development levels (PDLs)

2021 ZIPD Scores: Countries at Postal Development Levels 7, 8, 9 and 10

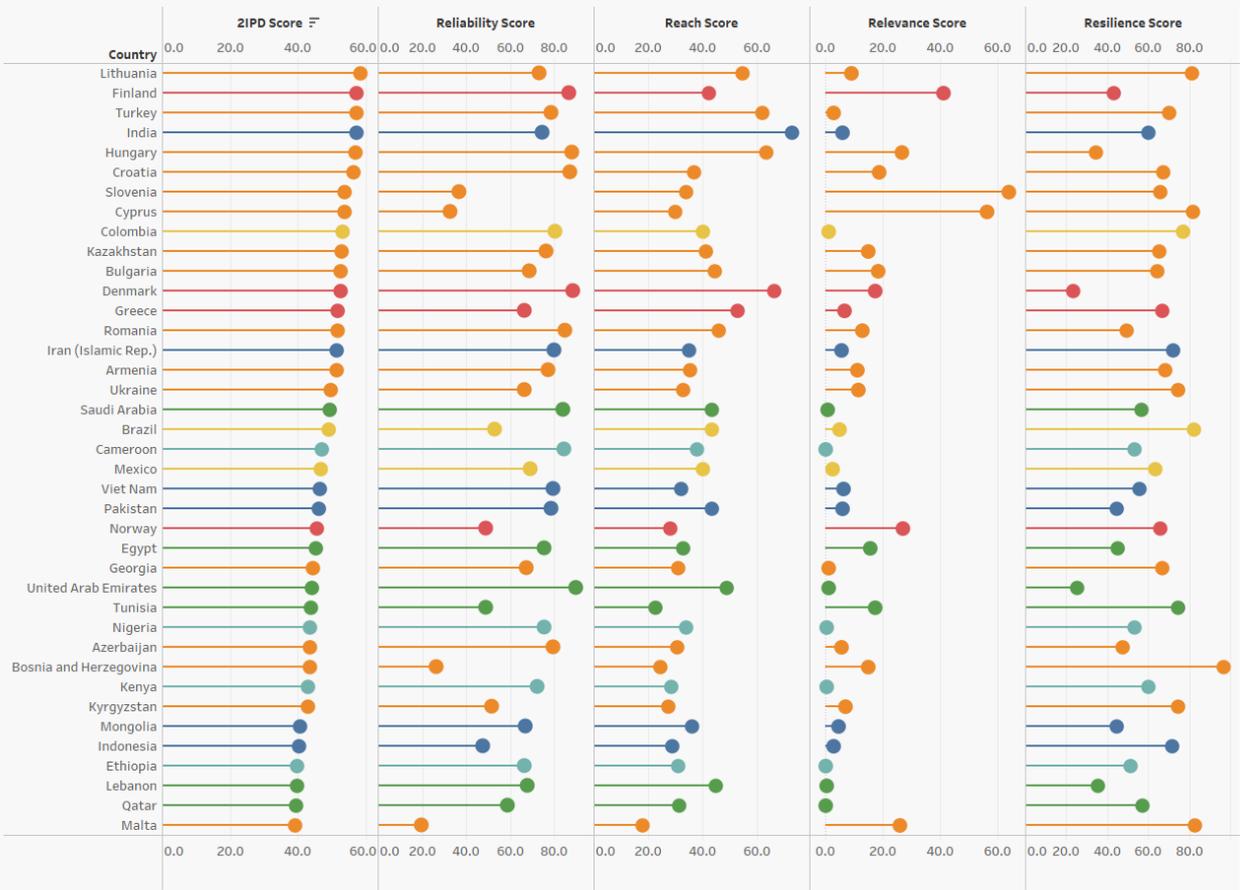


- ASIA PACIFIC REGION
- EUROPE AND CIS REGION
- IC GROUP

2021 ZIPD Scores: **Countries at Postal Development Levels 7, 8, 9 and 10**

COUNTRY	PDL	ZIPD SCORE	RELIABILITY	REACH	RELEVANCE	RESILIENCE
Australia	7	68.8	90.1	64.2	22.0	79.8
Austria	10	96.8	90.3	72.6	100.0	96.6
Belarus	8	75.1	92.3	63.0	24.2	100.0
Belgium	8	73.9	75.8	79.5	31.3	88.6
Canada	9	81.9	88.7	73.2	48.5	94.3
China	10	91.1	81.5	94.7	94.3	68.0
Czech Rep.	8	69.0	88.4	62.3	24.1	82.0
Estonia	9	80.0	83.3	35.9	89.8	88.4
France	10	92.9	96.1	90.7	64.1	94.3
Germany	10	97.5	89.3	98.8	98.5	75.5
Great Britain	9	84.9	98.5	93.7	31.2	92.2
Ireland	8	70.5	96.8	47.4	24.3	94.0
Israel	7	59.3	77.4	50.8	9.1	83.8
Italy	8	72.8	75.7	75.3	26.0	93.8
Japan	10	91.7	97.5	68.9	99.7	74.5
Korea (Rep.)	7	59.0	99.4	42.6	12.3	65.7
Latvia	7	62.0	89.5	59.7	17.4	64.5
Malaysia	7	63.5	86.6	72.6	3.5	73.9
Moldova	7	61.3	97.5	43.1	14.3	73.6
Netherlands	9	86.2	89.0	95.5	47.0	89.1
New Zealand	8	69.6	97.7	52.9	21.1	87.5
Poland	7	65.5	77.9	63.7	13.2	89.2
Portugal	7	66.1	65.3	64.3	25.2	91.4
Russian Federation	7	67.7	81.3	65.8	12.9	92.3
Serbia	7	65.2	91.6	41.8	11.5	98.0
Singapore	8	78.7	100.0	88.8	13.8	90.2
Slovakia	7	65.8	95.1	44.2	18.2	87.9
Spain	7	60.0	77.2	73.6	9.2	63.9
Sweden	7	60.5	85.3	63.6	28.5	48.0
Switzerland	10	100.0	96.4	81.0	96.9	97.0
Thailand	7	61.3	99.4	44.4	8.0	76.7
United States of America	9	87.5	88.5	100.0	77.4	59.3

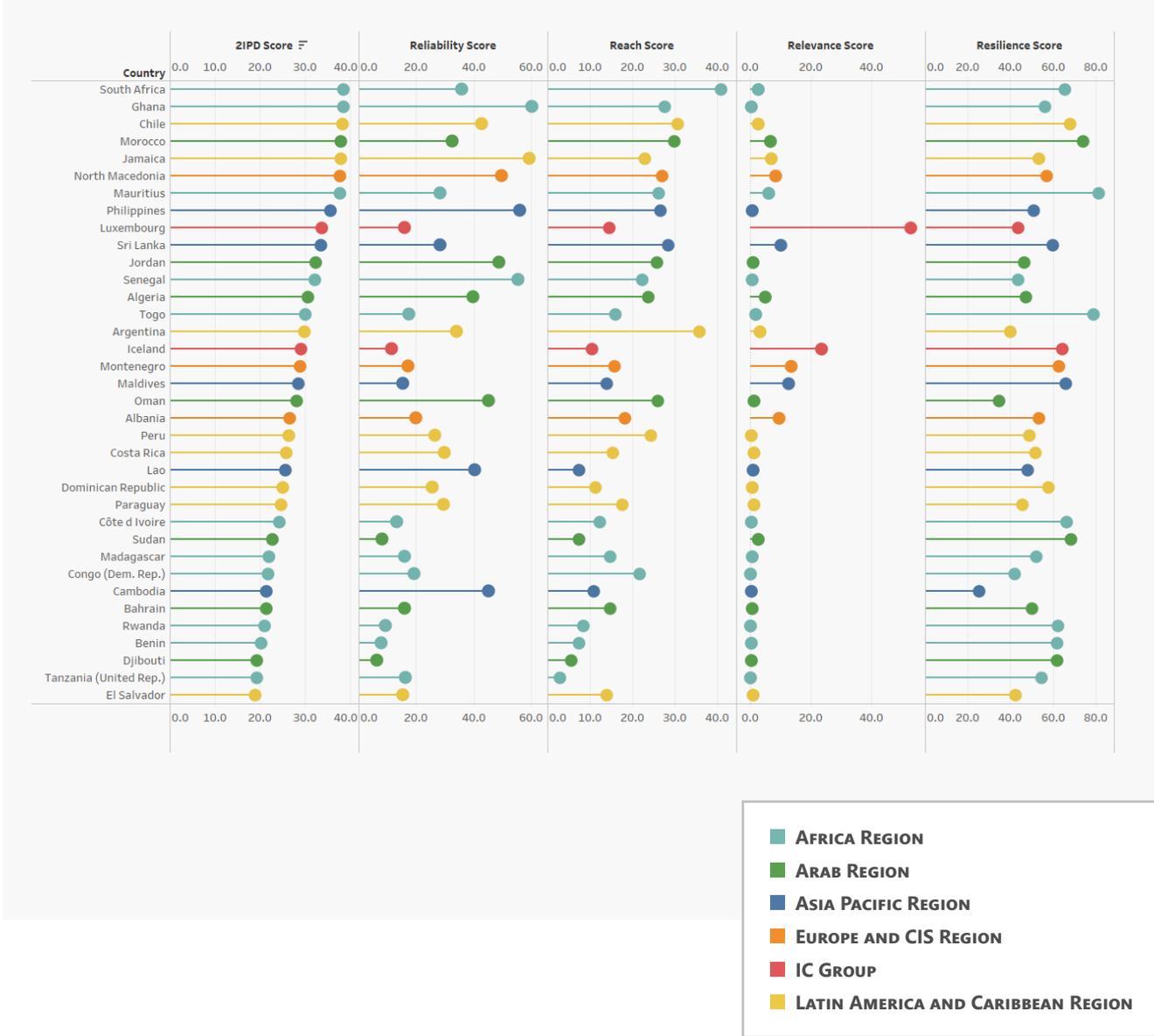
2021 2IPD Scores: Countries at Postal Development Levels 5 and 6



2021 ZIPD Scores: **Countries at Postal Development Levels 5 and 6**

COUNTRY	PDL	ZIPD SCORE	RELIABILITY	REACH	RELEVANCE	RESILIENCE
Armenia	6	51.5	77.3	35.4	11.3	68.4
Azerbaijan	5	43.6	79.5	30.5	5.7	47.6
Bosnia and Herzegovina	5	43.6	26.6	24.6	15.1	96.9
Brazil	6	49.0	52.9	43.3	4.9	82.1
Bulgaria	6	52.6	68.9	44.6	18.4	64.5
Cameroon	5	47.0	84.3	37.9	0.3	53.4
Colombia	6	53.2	80.4	40.1	1.3	76.9
Croatia	6	56.3	87.0	36.8	19.0	67.4
Cyprus	6	53.9	32.6	30.1	56.6	81.9
Denmark	6	52.5	88.5	66.4	17.5	23.6
Egypt	5	45.3	75.5	32.9	15.9	45.0
Ethiopia	5	39.9	66.6	31.0	0.3	51.6
Finland	6	57.3	86.8	42.5	41.2	43.5
Georgia	5	44.5	67.4	31.0	1.4	66.8
Greece	6	51.8	66.7	52.8	6.9	67.1
Hungary	6	57.0	87.8	63.6	26.9	34.4
India	6	57.3	74.5	72.9	6.1	60.3
Indonesia	5	40.2	47.4	28.9	3.0	71.6
Iran (IslamicRep.)	6	51.6	79.7	34.9	5.8	72.3
Kazakhstan	6	53.0	76.4	41.1	15.1	65.2
Kenya	5	43.1	72.2	28.6	0.5	60.1
Kyrgyzstan	5	43.0	51.7	27.4	7.2	74.7
Lebanon	5	39.7	67.7	45.0	0.7	35.6
Lithuania	6	58.5	73.1	54.6	9.2	81.2
Malta	5	39.1	19.6	18.1	26.1	82.8
Mexico	5	46.8	69.1	40.1	2.6	63.3
Mongolia	5	40.7	66.9	36.3	4.7	44.8
Nigeria	5	43.7	75.4	34.1	0.8	53.3
Norway	5	45.5	48.8	28.3	27.0	66.2
Pakistan	5	46.2	78.6	43.4	6.0	44.7
Qatar	5	39.5	58.9	31.3	0.4	57.4
Romania	6	51.7	84.7	45.9	12.9	49.5
Saudi Arabia	6	49.5	83.8	43.5	0.9	56.7
Slovenia	6	53.9	37.0	34.2	64.0	66.1
Tunisia	5	43.8	49.0	22.7	17.6	74.7
Turkey	6	57.3	78.7	62.1	2.9	70.1
Ukraine	6	49.6	66.5	32.7	11.5	74.6
United Arab Emirates	5	44.3	90.0	48.9	1.4	25.6
Viet Nam	5	46.5	79.6	32.0	6.5	55.8

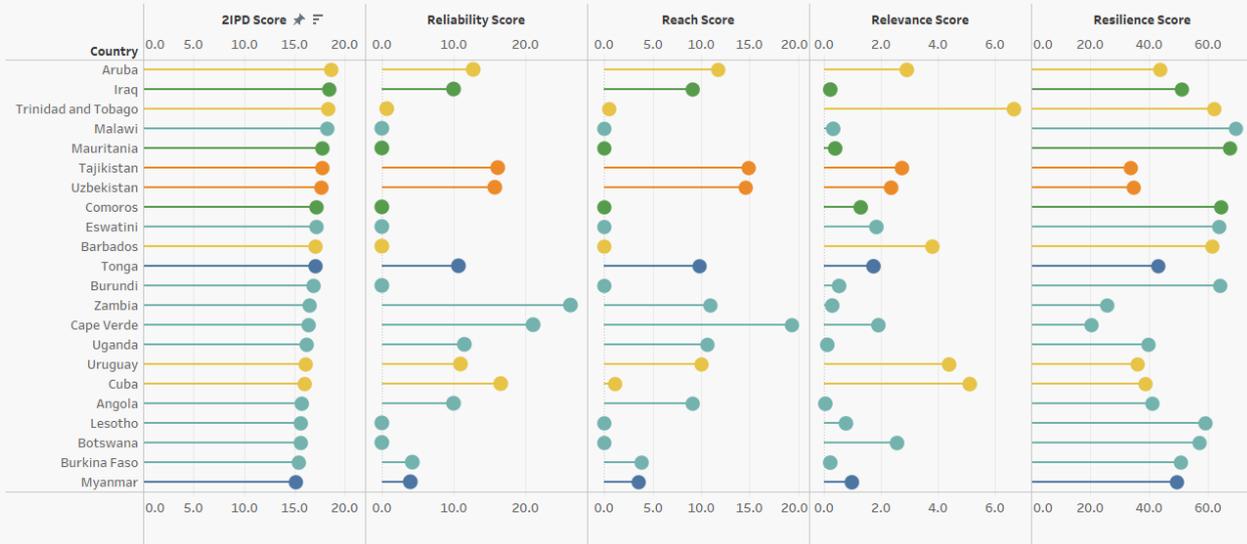
2021 2IPD Scores: Countries at Postal Development Levels 3 and 4



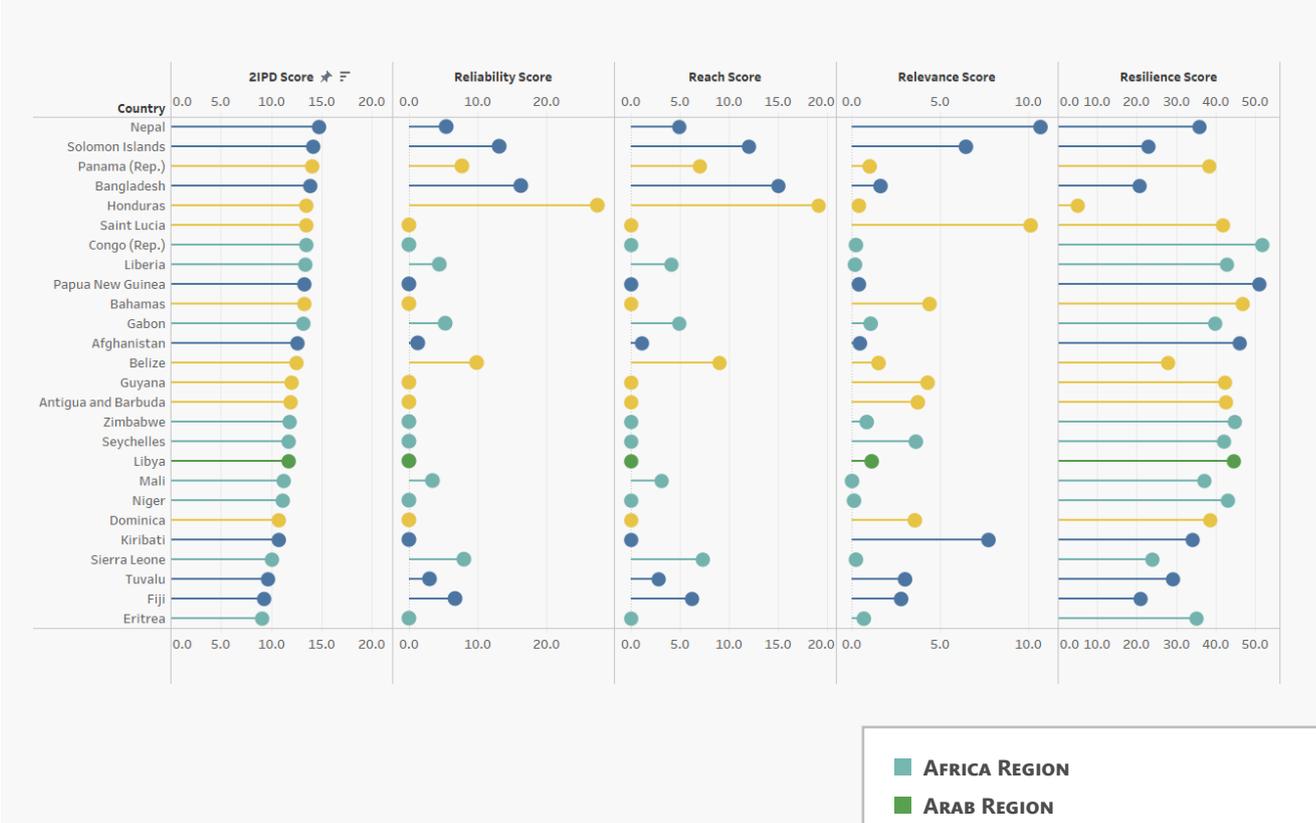
2021 ZIPD Scores: **Countries at Postal Development Levels 3 and 4**

COUNTRY	PDL	ZIPD SCORE	RELIABILITY	REACH	RELEVANCE	RESILIENCE
Albania	3	26.7	19.8	18.2	9.5	53.4
Algeria	4	30.7	39.7	23.8	4.8	47.3
Argentina	4	30.0	34.0	35.9	3.1	40.0
Bahrain	3	21.5	16.0	14.7	0.6	50.3
Benin	3	20.4	8.0	7.4	0.4	61.9
Cambodia	3	21.6	45.3	11.0	0.2	25.4
Chile	4	38.4	42.8	30.7	2.7	67.9
Congo (Dem. Rep.)	3	21.9	19.4	21.6	0.2	42.0
Costa Rica	3	25.9	29.7	15.5	1.0	51.8
Cote d Ivoire	3	24.3	13.3	12.3	0.3	66.3
Djibouti	3	19.4	6.2	5.7	0.4	61.8
Dominican Republic	3	25.1	25.5	11.3	0.6	57.8
El Salvador	3	18.9	15.2	14.1	0.7	42.2
Ghana	4	38.6	60.5	27.7	0.4	56.2
Iceland	4	29.2	11.4	10.6	23.6	64.5
Jamaica	4	38.0	59.5	22.9	6.9	53.4
Jordan	4	32.5	48.9	25.8	1.0	46.5
Lao	3	25.7	40.5	7.5	0.9	48.2
Luxembourg	4	33.9	15.9	14.7	53.1	43.8
Madagascar	3	22.1	16.1	14.8	0.5	52.4
Maldives	3	28.6	15.2	14.1	12.6	66.0
Mauritius	4	37.9	28.4	26.3	6.0	81.4
Montenegro	4	29.0	17.2	15.9	13.6	62.8
Morocco	4	38.1	32.4	30.0	6.7	74.0
North Macedonia	4	37.9	49.9	27.0	8.3	57.1
Oman	3	28.3	45.3	26.0	1.0	34.6
Paraguay	3	24.8	29.5	17.6	1.1	45.6
Peru	3	26.5	26.5	24.5	0.2	49.1
Philippines	4	35.7	56.1	26.6	0.5	50.8
Rwanda	3	21.1	9.2	8.5	0.1	62.4
Senegal	4	32.4	55.4	22.3	0.6	43.5
South Africa	4	38.7	35.7	40.9	2.7	65.7
Sri Lanka	4	33.6	28.3	28.4	10.0	59.8
Sudan	3	22.9	8.1	7.5	2.7	68.6
Tanzania (United Rep.)	3	19.3	16.2	2.9	0.1	54.5
Togo	4	30.2	17.4	16.1	1.7	78.8

2021 ZIPD Scores: Countries at Postal Development Level 2 (Part I of II)



2021 ZIPD Scores: Countries at Postal Development Level 2 (Part II of II)



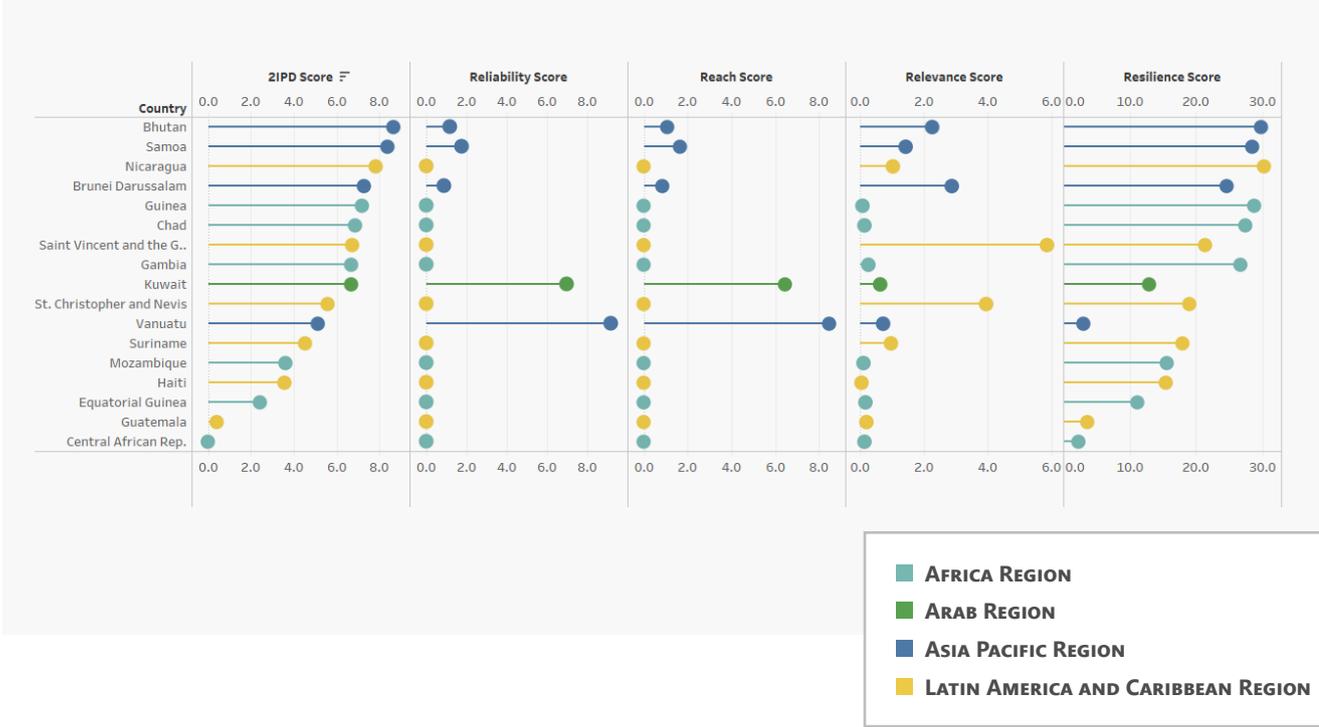
2021 ZIPD Scores: **Countries at Postal Development Level 2 (Part I of II)**

COUNTRY	PDL	ZIPD SCORE	RELIABILITY	REACH	RELEVANCE	RESILIENCE
Afganistan	2	12.6	1.2	1.1	0.5	46.1
Angola	2	15.7	9.9	9.2	0.1	41.3
Antigua and Barbuda	2	11.9	0.0	0.0	3.8	42.6
Aruba	2	18.7	12.8	11.8	2.9	43.9
Bahamas	2	13.2	0.0	0.0	4.5	46.8
Bangladesh	2	13.9	16.3	15.1	1.7	20.7
Barbados	2	17.1	0.0	0.0	3.8	61.8
Belize	2	12.5	9.8	9.1	1.6	28.0
Botswana	2	15.6	0.0	0.0	2.6	57.3
Burkina Faso	2	15.4	4.3	3.9	0.2	50.8
Burundi	2	16.9	0.0	0.0	0.6	64.3
Cape Verde	2	16.4	21.0	19.4	1.9	20.7
Comoros	2	17.2	0.0	0.0	1.3	64.5
Congo(Rep.)	2	13.5	0.0	0.0	0.3	51.8
Cuba	2	16.0	16.5	1.1	5.1	38.9
Dominica	2	10.8	0.0	0.0	3.6	38.6
Eritrea	2	9.1	0.0	0.0	0.7	35.2
Fiji	2	9.3	6.8	6.2	2.8	21.0
Gabon	2	13.2	5.3	4.9	1.1	39.8
Guyana	2	12.0	0.0	0.0	4.3	42.4
Honduras	2	13.5	27.4	19.2	0.4	5.2
Iraq	2	18.5	9.9	9.2	0.2	51.2
Kiribati	2	10.7	0.0	0.0	7.8	34.2
Lesotho	2	15.6	0.0	0.0	0.8	59.2

2021 ZIPD Scores: **Countries at Postal Development Level 2 (Part II of II)**

COUNTRY	PDL	ZIPD SCORE	RELIABILITY	REACH	RELEVANCE	RESILIENCE
Eswatini	2	17.2	0.0	0.0	1.8	63.9
Liberia	2	13.4	4.5	4.1	0.2	42.9
Libya	2	11.8	0.0	0.0	1.2	44.6
Malawi	2	18.3	0.0	0.0	0.3	69.5
Mali	2	11.2	3.4	3.1	0.1	37.2
Mauritania	2	17.7	0.0	0.0	0.4	67.5
Myanmar	2	15.1	3.9	3.6	1.0	49.5
Nepal	2	14.8	5.4	5.0	10.7	35.8
Niger	2	11.1	0.0	0.0	0.1	43.3
Panama (Rep.)	2	14.0	7.7	7.1	1.0	38.3
Papua New Guinea	2	13.3	0.0	0.0	0.4	51.0
Saint Lucia	2	13.5	0.0	0.0	10.1	42.0
Seychelles	2	11.8	0.0	0.0	3.6	42.2
Sierra Leone	2	10.1	8.0	7.4	0.2	23.9
Solomon Islands	2	14.2	13.1	12.1	6.5	23.0
Tajikistan	2	17.7	16.2	14.9	2.7	34.0
Tonga	2	17.1	10.7	9.9	1.8	43.1
Trinidad and Tobago	2	18.4	0.6	0.6	6.7	62.2
Tuvalu	2	9.7	3.0	2.8	3.0	29.3
Uganda	2	16.2	11.5	10.6	0.1	40.0
Uruguay	2	16.1	10.9	10.1	4.4	36.4
Uzbekistan	2	17.7	15.8	14.6	2.4	34.9
Zambia	2	16.5	26.2	10.9	0.3	25.8
Zimbabwe	2	11.8	0.0	0.0	0.9	45.0

2021 2IPD Scores: Countries at Postal Development Level 1

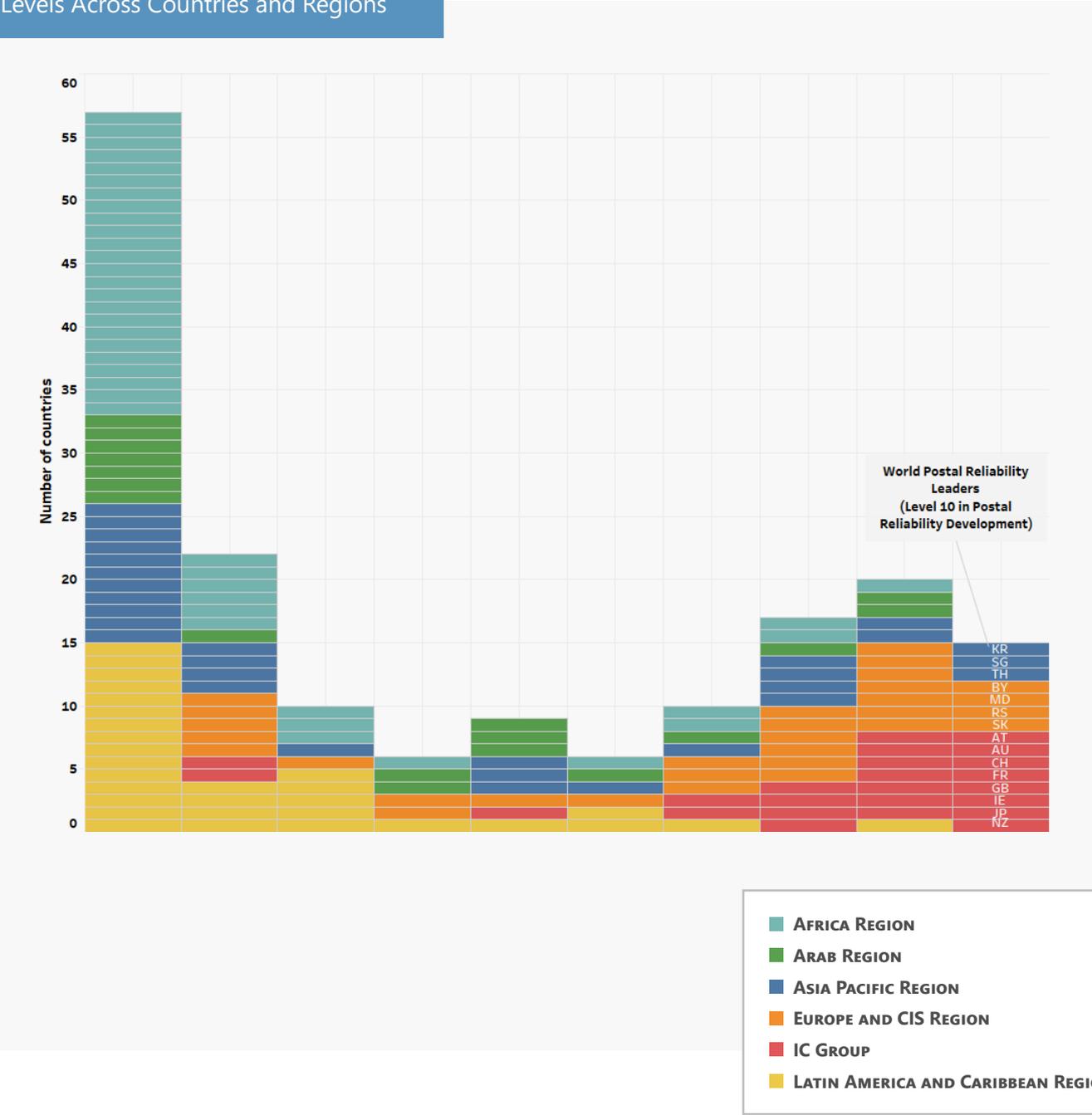


2021 2IPD Scores: Countries at Postal Development Level 2 (Part II of II)

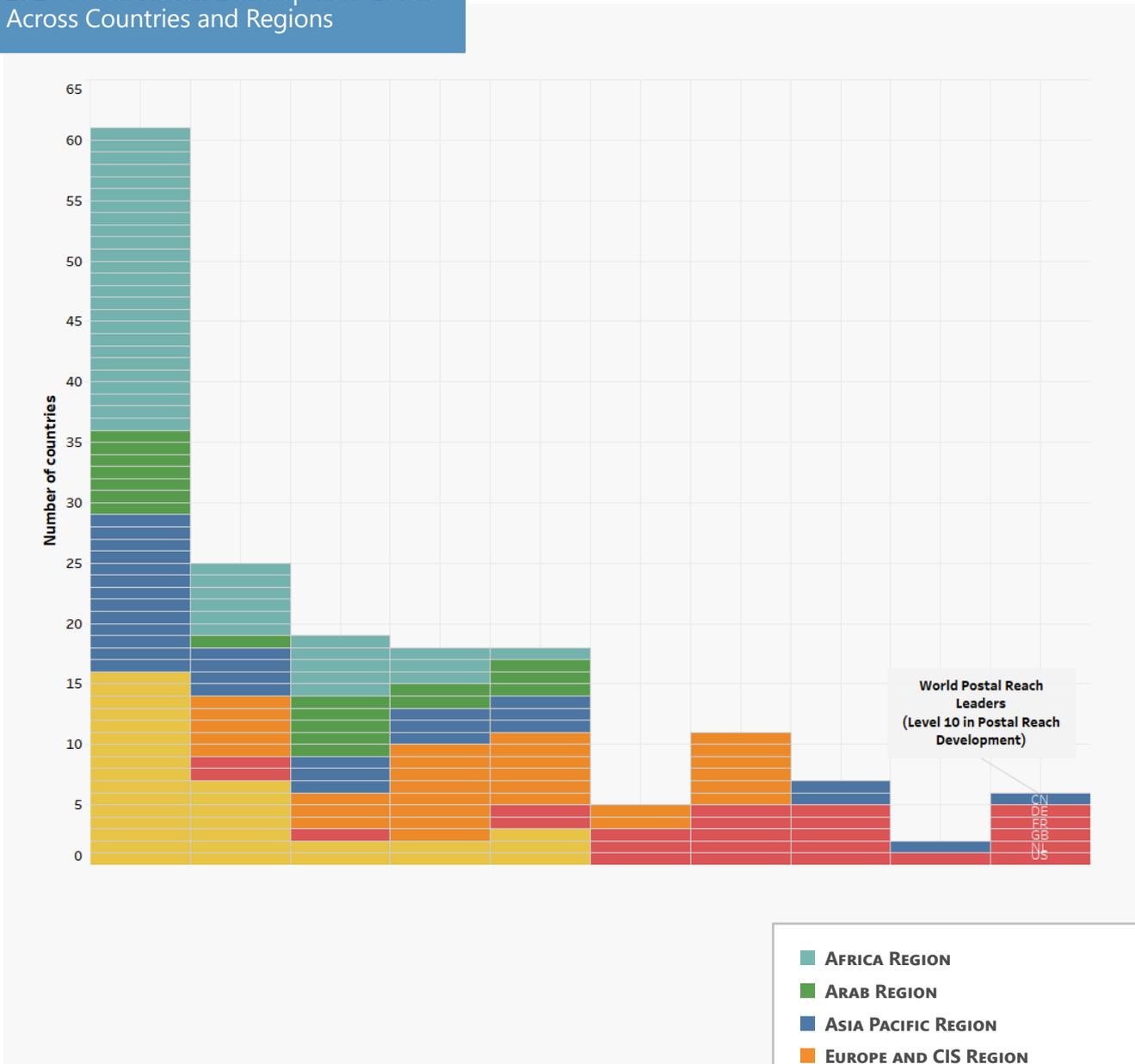
COUNTRY	PDL	2IPD SCORE	RELIABILITY	REACH	RELEVANCE	RESILIENCE
Bhutan	1	8.6	1.1	1.1	2.3	29.8
Brunei Darussalam	1	7.3	0.9	0.8	2.9	24.6
Central African Rep.	1	0.0	0.0	0.0	0.1	2.3
Chad	1	6.9	0.0	0.0	0.2	27.5
Equatorial Guinea	1	2.4	0.0	0.0	0.2	11.2
Gambia	1	6.7	0.0	0.0	0.3	26.7
Guatemala	1	0.4	0.0	0.0	0.2	3.6
Guinea	1	7.2	0.0	0.0	0.1	28.9
Haiti	1	3.5	0.0	0.0	0.1	15.4
Kuwait	1	6.7	7.0	6.4	0.6	12.9
Mozambique	1	3.6	0.0	0.0	0.1	15.7
Nicaragua	1	7.8	0.0	0.0	1.0	30.2
Saint Vincent and the Grenadines	1	6.7	0.0	0.0	5.8	21.4
Samoa	1	8.4	1.8	1.6	1.4	28.5
St. Christopher and Nevis	1	5.6	0.0	0.0	4.0	19.1
Suriname	1	4.5	0.0	0.0	1.0	18.1
Vanuatu	1	5.1	9.1	8.4	0.7	3.0

Annex 3: 2IPD 4R components – regional distribution

2021 Postal **Reliability** Development Levels Across Countries and Regions

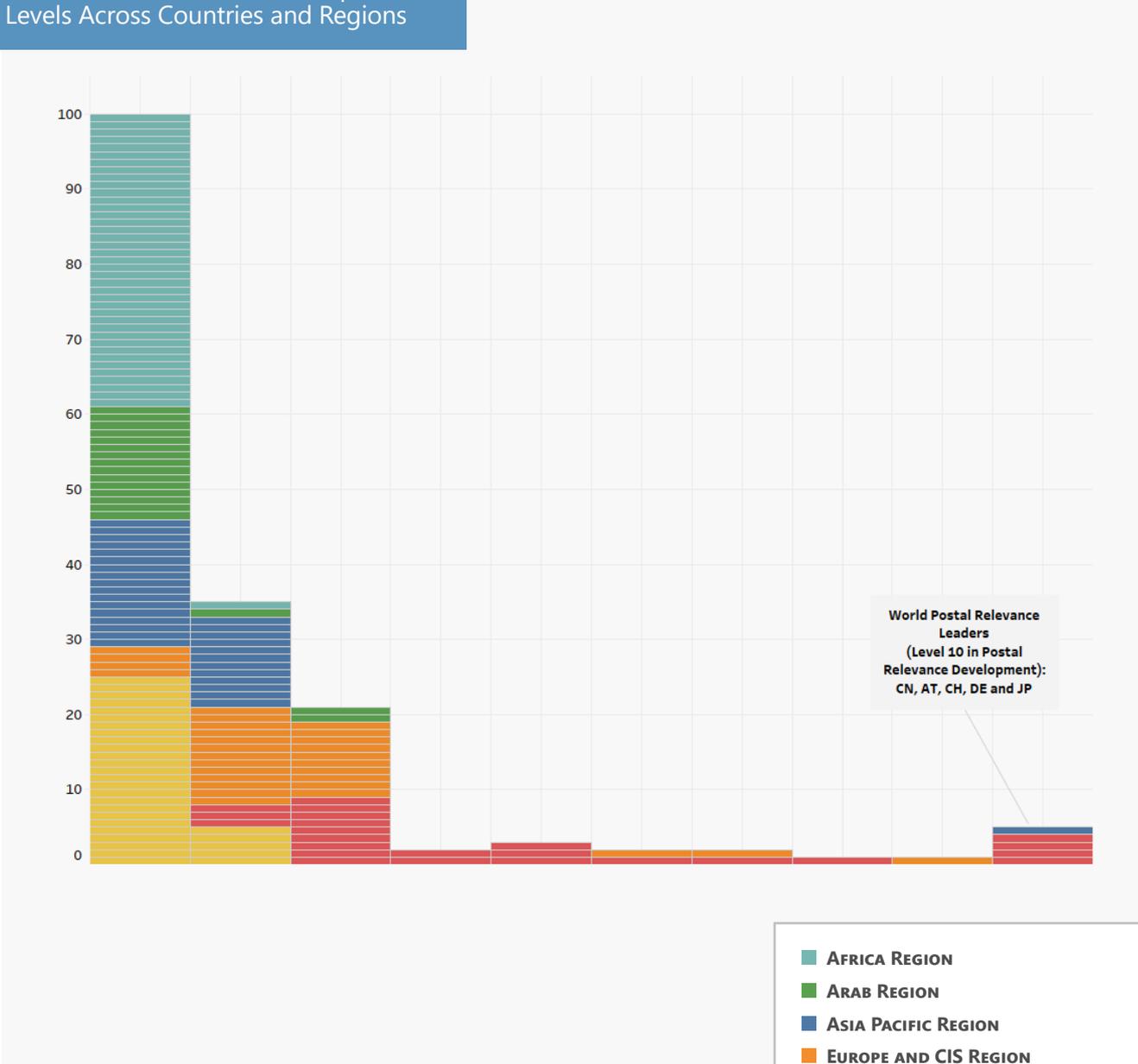


2021 Postal **Reach** Development Levels Across Countries and Regions



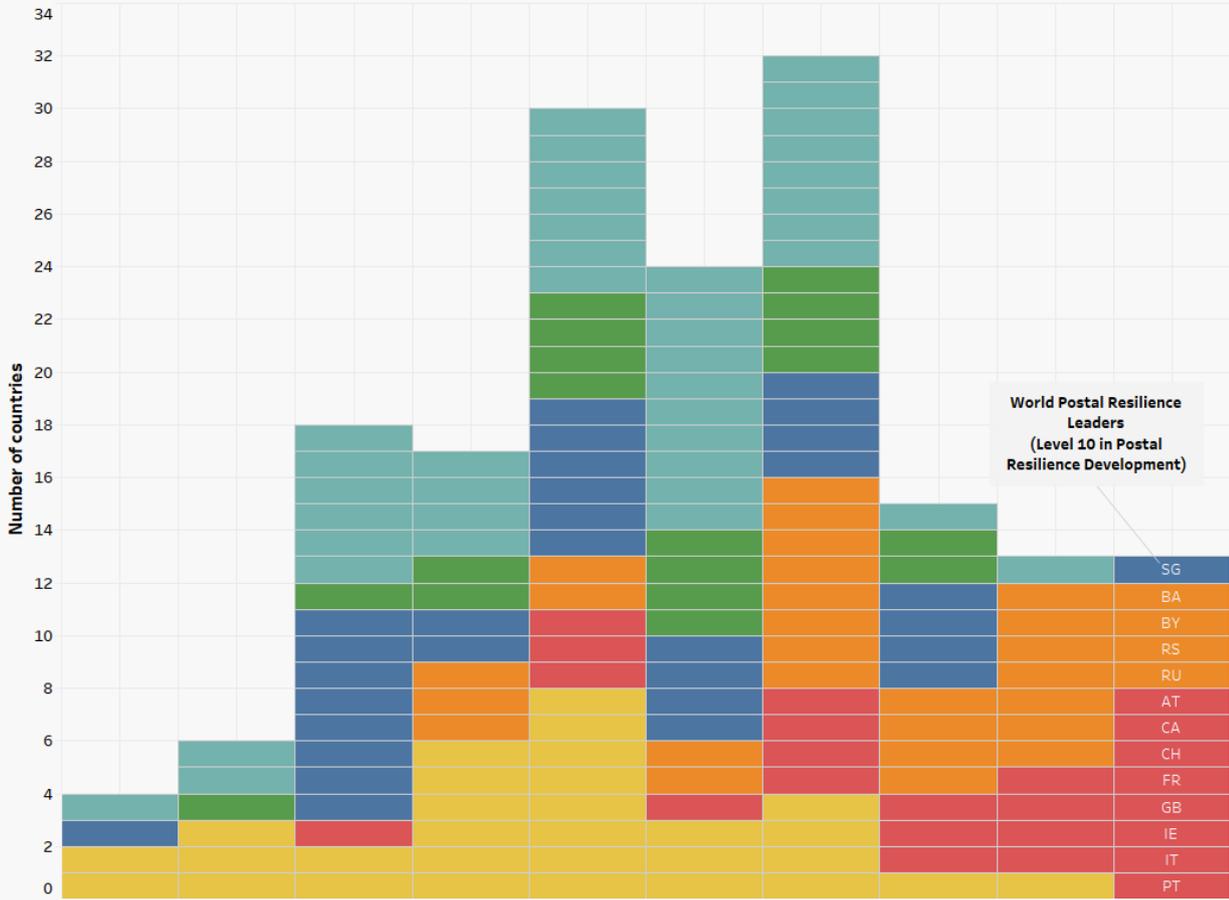
- AFRICA REGION
- ARAB REGION
- ASIA PACIFIC REGION
- EUROPE AND CIS REGION
- IC GROUP
- LATIN AMERICA AND CARIBBEAN REGION

2021 Postal **Relevance** Development Levels Across Countries and Regions



- AFRICA REGION
- ARAB REGION
- ASIA PACIFIC REGION
- EUROPE AND CIS REGION
- IC GROUP
- LATIN AMERICA AND CARIBBEAN REGION

2021 Postal **Resilience** Development Levels Across Countries and Regions



World Postal Resilience Leaders (Level 10 in Postal Resilience Development)

- SG
- BA
- BY
- RS
- RU
- AT
- CA
- CH
- FR
- GB
- IE
- IT
- PT

- AFRICA REGION
- ARAB REGION
- ASIA PACIFIC REGION
- EUROPE AND CIS REGION
- IC GROUP
- LATIN AMERICA AND CARIBBEAN REGION

Annex 4: Postal reach, relevance and resilience “catch up” scores

2021 Postal Development
and Reach Catch Up Stars

REGION	COUNTRY	2IPD + RELIABILITY SCORES CHANGES	PDL
AFRICA REGION	Togo	18.66	4
	Uganda	12.89	2
	Mauritius	12.19	4
	Kenya	11.09	5
	Gabon	10.99	2
	Nigeria	10.00	5
ARAB REGION	Bahrain	16.26	3
ASIA PACIFIC REGION	Maldives	19.21	3
	India	12.39	6
EUROPE AND CIS REGION	Armenia	35.58	6
	Azerbaijan	10.06	5
IC GROUP	Portugal	11.24	7
LATIN AMERICA AND CARIBBEAN REGION	Paraguay	18.62	3
	Aruba	16.45	2
	Mexico	14.96	5

2021 Postal Development and Relevance Catch Up Promises and Stars

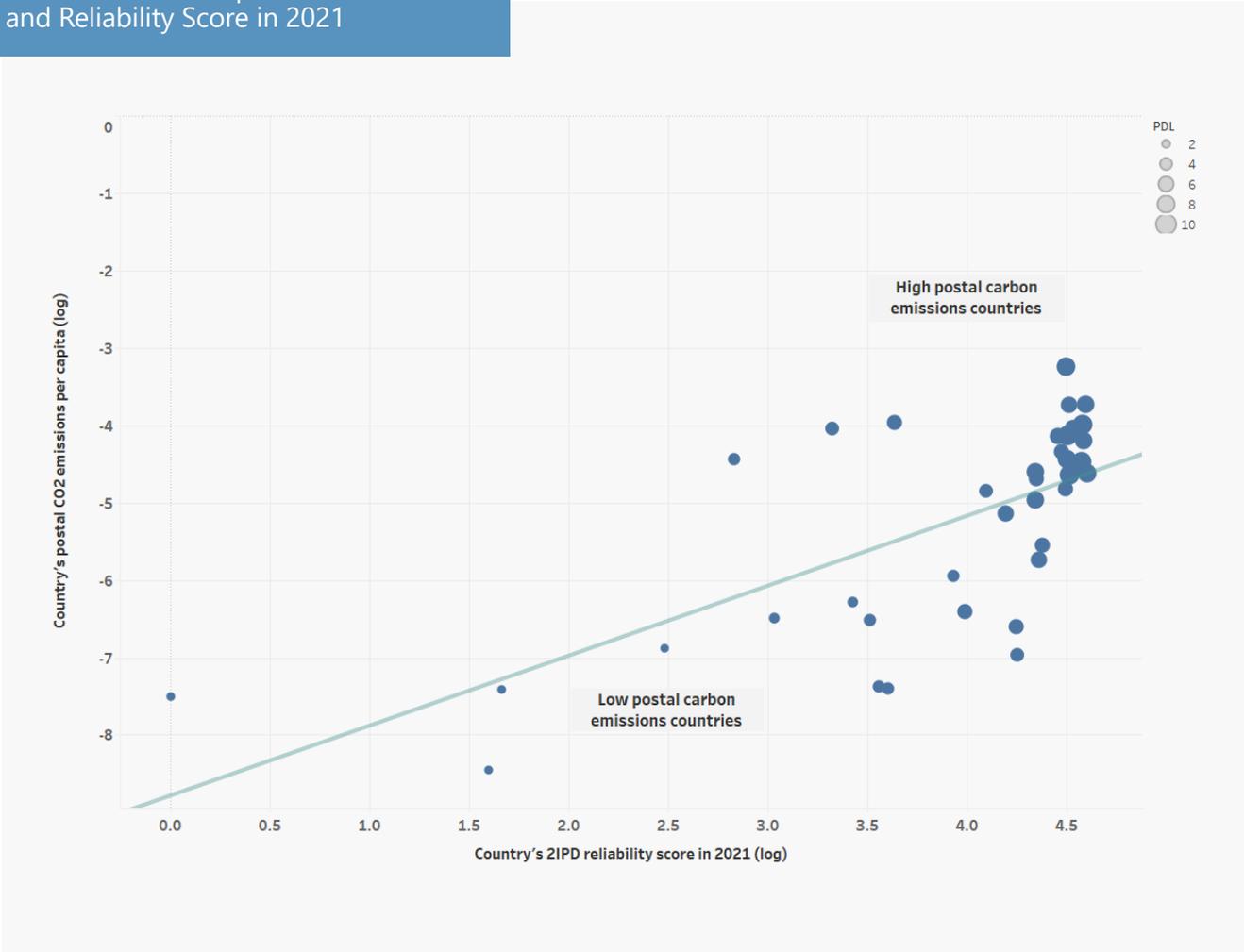
REGION	COUNTRY	2IPD + RELIABILITY SCORES CHANGES	PDL
AFRICA REGION	Togo	12.31	4
ARAB REGION	Egypt	35.89	5
ASIA PACIFIC REGION	Pakistan	10.69	5
	India	10.43	6
EUROPE AND CIS REGION	Estonia	76.19	9
	Armenia	21.73	6
	Belarus	14.34	8
IC GROUP	Austria	16.42	10
	United States of America	12.23	9
	Belgium	11.11	8

2021 Postal Development and Resilience Catch Up Stars

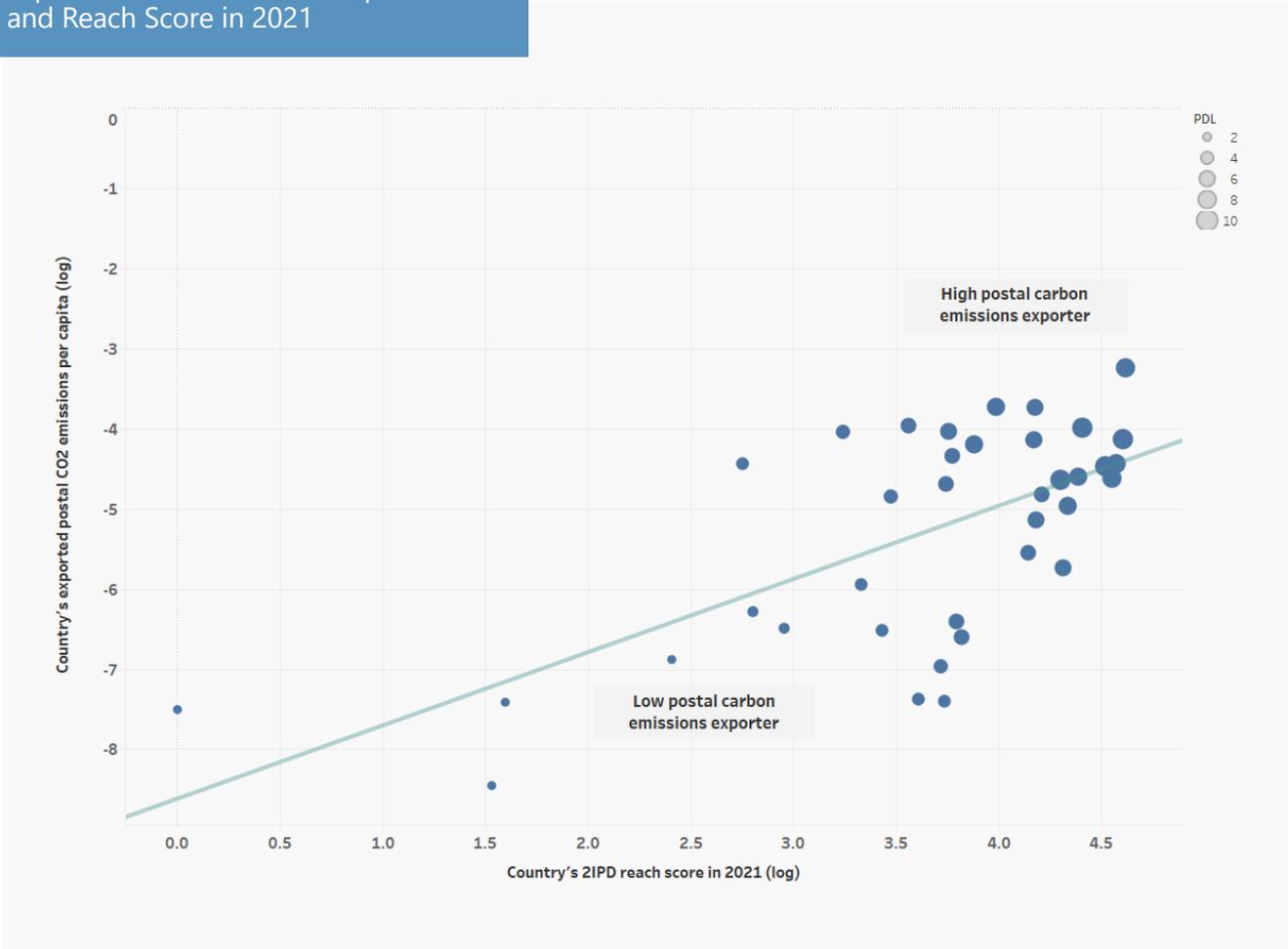
REGION	COUNTRY	2IPD + RELIABILITY SCORES CHANGES	PDL
AFRICA REGION	Malawi	23.97	2
	Togo	22.89	4
	Eswatini	20.28	2
ARAB REGION	Egypt	37.65	5
	Mauritania	24.77	2
	Sudan	12.67	3
ASIA PACIFIC REGION	China	40.60	10
EUROPE AND CIS REGION	Estonia	27.72	9
	Lithuania	13.42	6
	Montenegro	12.12	4
	Belarus	12.06	8
IC GROUP	Netherlands	10.08	9
LATIN AMERICA AND CARIBBEAN REGION	Colombia	25.57	6
	Panama (Rep.)	17.12	2
	Bahamas	15.02	2

Annex 5: Postal carbon footprint by 2IPD sub-scores on reliability, reach and relevance

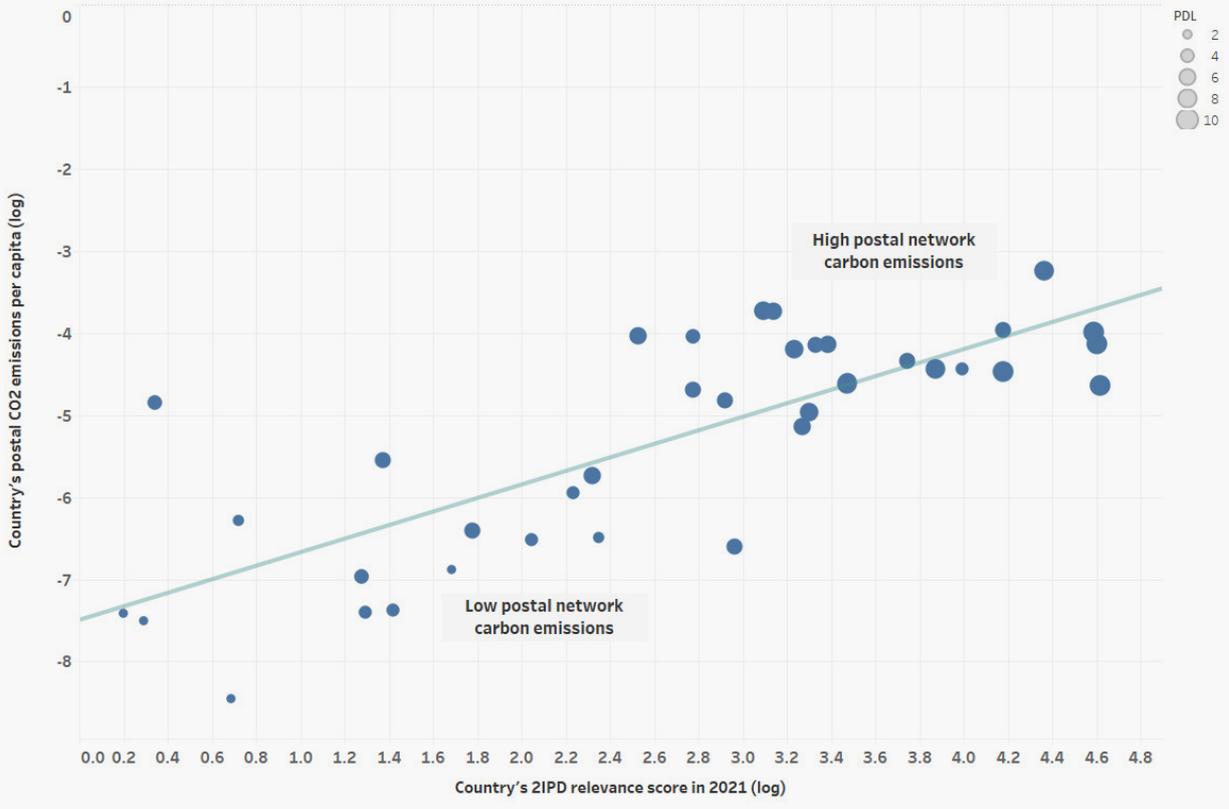
Postal Carbon Footprint and Reliability Score in 2021



Exported Postal Carbon Footprint and Reach Score in 2021



Postal Carbon Footprint and Relevance Score in 2021



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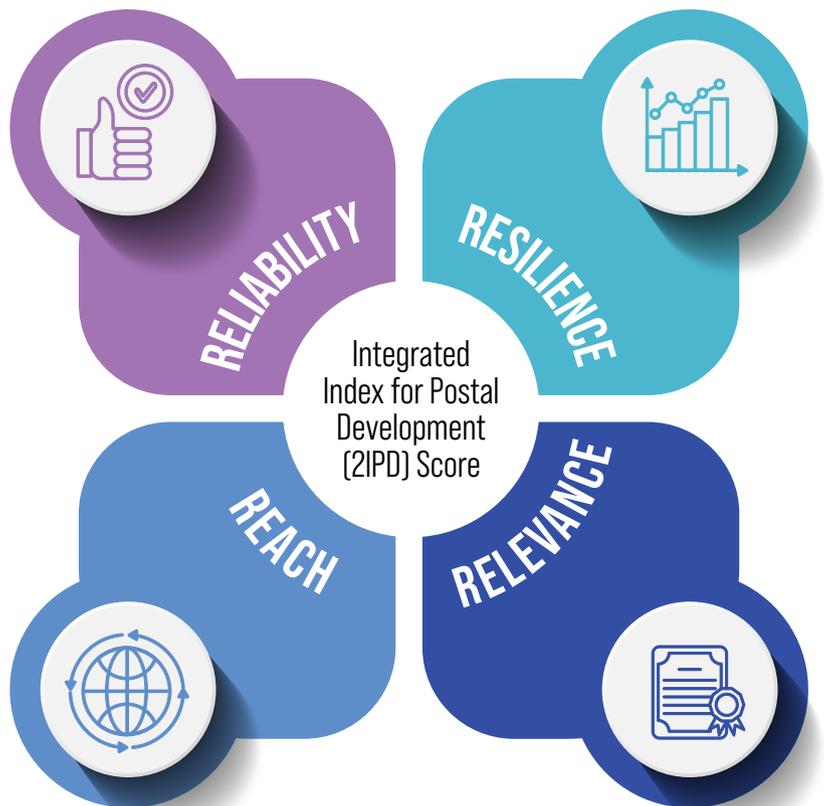
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