

## Quality Infrastructure in Support of Sustainable Economic Development

An efficient economy which creates and safeguards jobs is a decisive prerequisite for reducing poverty in developing countries and countries in transition. Employment creates income and gives the people the chance to free themselves from poverty. In the case of sustainable economic development, the economic, social and ecological development goals harmonize with each

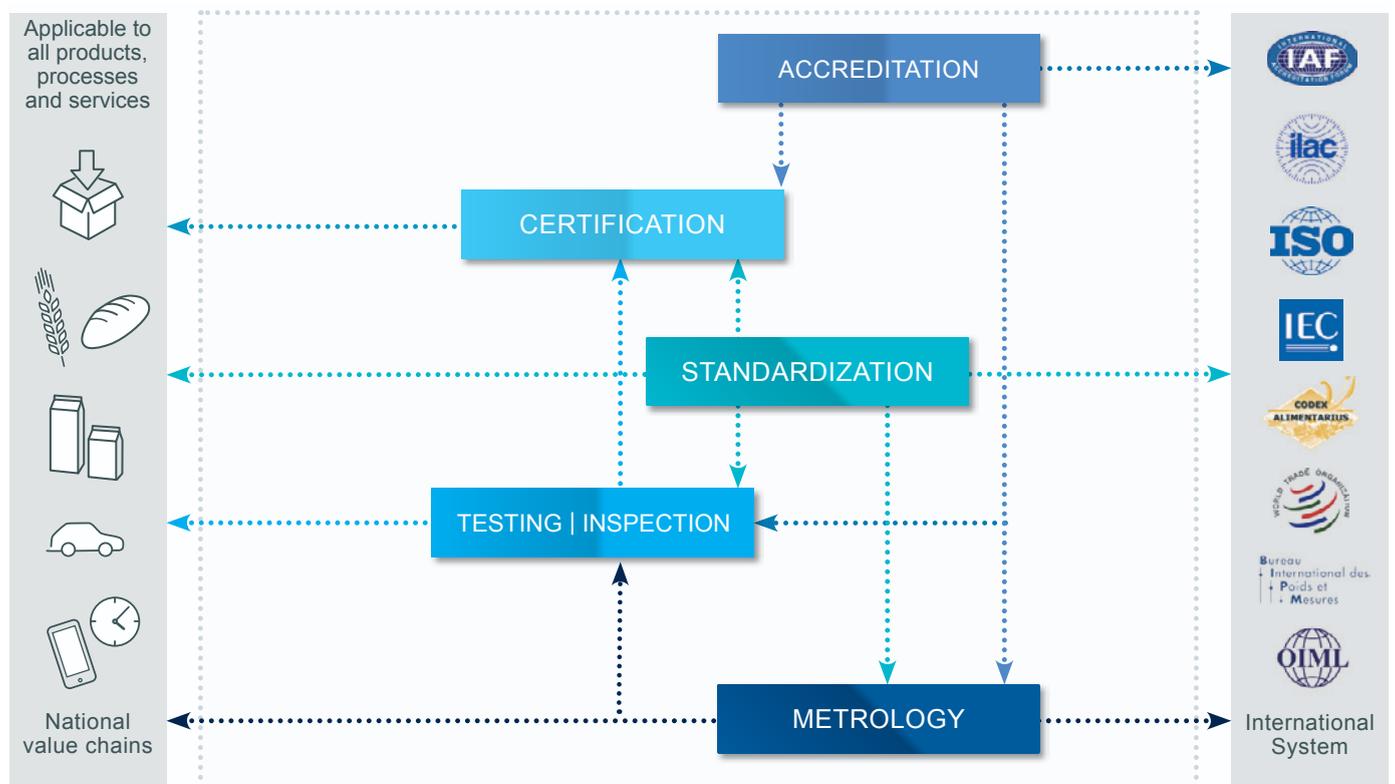
other. The projects of the International Cooperation Department of the Physikalisch-Technische Bundesanstalt support the framework conditions for economic action. They serve to promote the fair exchange of goods and services and at the same time ensure consumer, environmental and health protection.

A functioning economy forms the basis for a country's development. Linked to this is the exchange of goods and services at national, regional and international levels. To this end, regulatory guidelines are necessary which bring economic development in line with social and ecological development goals. The creation of these domestic framework conditions for the economy and society is an essential legislative task and is a part of good governance. It is the task of government to regulate questions on the measurement system, on the regulations and on standards for environmental, health and safety aspects as well as the competence of national and private institutions. In many developing countries there is a lack of institutions that are in charge, or there are competence and capacity problems that hinder doing justice to developmental requirements and enabling participation in regional and global trade.

based on fixed rules and which offers legal certainty. A recognized and functional Quality Infrastructure supports the integration into regional and international value chains and the compliance with standards and technical protective regulations. Thus, Quality Infrastructure represents a fundamental prerequisite for the cooperation between economic entities.

Quality Infrastructure not only promotes economic growth, innovativeness and competitiveness, but rather also forms an essential pillar for assuring social development. For the individual consumer, it is no longer possible today to test the quality of goods. This not only applies to the quantities at gasoline pumps or to so-called prepackaging in supermarkets. Particularly critical are the health aspects, i.e. nonhazardous manufacturing processes and products or raw materials for creatures (e.g. clean drinking water). This includes environmental soundness.

### Quality Infrastructure network



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Countries with efficient public structures – these include many institutions of Quality Infrastructure – can better safeguard the interests of their populace within the framework of global policy making and implement international commitments.

The embodiment of a national quality policy with the determining elements of Quality Infrastructure is essential for developing countries and countries in transition. The main idea here is to design the national network of quality assurance services in such a way that it corresponds to the international commitments and orientations. This limits the possible courses of action. The rapidly progressing globalization of the world economy requires an open and fair trade system which is

Both the defining of limit values and the testing of the same present a challenge that can only be met by traceable measurements, testing and the corresponding certificates (confirmation of conformity with technical regulations and standards). All of this is conducted to a large extent indiscernible to the consumer and assumes a high measure of trust.

## Our Contribution.

To support sustainable economic and social development, PTB concentrates on implementing the concept of systemic competitiveness which means that its contributions are not isolated or random, but rather follow a systematic approach which is indicated by international agreements. Governments and partner organizations are supported in the creation of a national quality policy which enables businesses and service providers to fully develop and to use their potential (political consulting at the macro level). By means of tailor-made consultancy services, the partner countries are prepared for participation in international quality related institutions and regional institutions are set up and supported. In part, the membership in quality related institutions is not a matter of course but is rather linked to the fulfillment of technical prerequisites and obligations. Within the scope of Human Capacity Development measures, decision makers and the technical staff of the Quality Infrastructure institutions will be made familiar with the implementation of these agreements. Above all, this applies to the guidelines of the World Trade Organization (WTO) in the area of Quality Infrastructure. The removal of technical barriers to trade here is the main focus of PTB's work.

At the meso level (private and national providers of quality assurance services), above all the complexity of the Quality Infrastructure is accommodated. This represents a dense network of accreditation, metrology, standardization and conformity assessment. PTB's support of existing institutions and service providers, and those to be newly established, is based, however, not only on international guidelines. The consultancy services are demand-oriented and take economically sensible solutions into account within the scope of a regional or international division of labor. Relevant synergies ensue from, above all, the field of metrology, of accreditation and from testing laboratories. Considerable investment and maintenance costs as well as extensive requirements for specialized staff make an accurate assessment of requirements necessary in order to base the quality assuring services on the demand and the future requirements, and thus to be able to ensure their sustainability. PTB provides consultancy services for the institutional embodiment of the entire network and supports the development of individual Quality Infrastructure institutions technically and organizationally.

A national quality policy encompasses a legally regulated and a market driven area. The latter, however, although voluntary, is also based on international guidelines and orientations. The consultancy services of PTB encompass both areas and create exchange platforms for the cooperation based on partnerships between the state, the economy and civil society. The correct sequence of the reform steps and a coherent procedure is often crucial for enabling innovations in the operational procedures and monitoring systems to become development politically effective.

The systemic approach allows the quality assurance services to be offered in the so-called "plug and play" procedure. A closed and an internationally recognized national network of Quality Infrastructure is universally applicable. PTB's consultancy uses this advantage at all levels of the most diverse value chains to improve product quality and productivity. Particularly the setting up of testing and calibration laboratories and the extension of their scope of services improve the range of services offered for the economy. This allows structural effects to be generated, above all, at the micro level (production companies, retailers). This is possible both directly within the framework of the support for small and medium-sized enterprises as well as indirectly via measures in the area of business development services. To this end, PTB uses its partnerships with other German and international development organizations.

Due to its technical fundament, PTB, together with its strategic partners, is capable of representing the interests of its partner countries at the international level. PTB promotes the participation in international developments und in a dialog on an equal footing.



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## The Impact of Our Work.

Quality is multifaceted. Just as multifaceted are the impacts which are triggered by an improved Quality Infrastructure. Quality has the character of a public good and it crosses sectors. The extension and improvement of quality assurance services have extensive guidance and spread effects.

Verifiable compliance with quality criteria supports the integration of developing countries and countries in transition into regional and international trade and value chains. By maintaining health, environmental and social standards, not only are non-tariff trade barriers reduced, but also trade opportunities are increased and, at the same time, protection provisions are met.

Above all in the case of small domestic markets, PTB is counting on the integration into regional economic communities. Through the reduction of regional trade barriers, economic regions become larger and hitherto unused business markets are created in which a regional value chain based on the division of labor is developed. Numerous examples in Africa, Asia, Latin America and the Caribbean show that these regional integration communities can be used as a stepping stone for orientation in international markets. Regional and international agreements for the mutual recognition of accreditations and measurement and testing results lead to a considerable reduction in transaction costs.

Via its technical orientation, PTB contributes to enabling the interfaces between research institutes and specialists to be further expanded, above all in and with countries in transition and newly industrialized countries. This ensures a transfer of knowledge and technology far beyond development cooperation. Within the framework of its south-south cooperation, PTB uses this technical expertise for adapted solutions in developing countries. The impact of these solutions is assessed as being especially effective by the partner countries.

### Shaping trade: Free. Fair. Safe.



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Well-directed orientation on the existing and the future demand increases the efficiency and sustainability of national and private economic investments.

The high degree of efficiency of an expansion and improvement of the offer of quality assurance services leads to a high degree of effectiveness of the measures. Products and processes will not only become qualitatively of higher value but rather also comply with international safety standards. By means of innovative production methods, quality assurance services increase productivity at all processing steps of different value chains.

A functioning Quality Infrastructure system makes impacts – by means of its cross sectional character – that exceed a purely economical growth and that make a significant contribution to achieving social and ecological development goals.