US-INDIA STRATEGIC PARTNERSHIP FORUM

MAIT Manufacturers' Association for Information Technology

COMPULSORY REGISTRATION ORDER CRO

IMPACT EVALUATION AND POLICY RECOMMENDATIONS

A SUBSET OF IT PRODUCTS

Based on a National Study conducted for Manufacturers Association for Information Technology (MAIT) and US-India Strategic Partnership Forum (USISPF) by Bureau of Research on Industry and Economic Fundamentals (BRIEF)

This document has been produced by Manufacturers Association for Information Technology(MAIT) and US-India Strategic Partnership Forum (USISPF) with the support of Bureau of Research on Industry and Economic Fundamentals (BRIEF) as their research partner.

STUDY ON COMPULSORY REGISTRATION ORDER: IMPACT EVALUATION AND POLICY RECOMMENDATIONS
A SUBSET OF IT PRODUCTS

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ABBREVIATIONS

ADPM	Automatic Data Processing Machine
AIR	Authorized Indian Representative
BIS	Bureau of Indian Standards
CAB	Conformity Assessment Bodies
CAGR	Compound Annual Growth Rate
CPCB	Central Pollution Control Board
CRO	Compulsory Registration Order
CRS	Compulsory Registration Scheme
EoDB	Ease of Doing Business
FDI	Foreign Direct Investment
IEC	International Electro-technical Commission
IS	Indian Standard
LED	Light Emitting Diodes
LIMS	Laboratory Information Management System
MeitY	Ministry of Electronics and Information Technology
NCB	National Certification Body
NOC	No Objection Certificate
SELV	Safety Extra Low Voltage
SMPS	Standalone Switch Mode Power Supplies
STC	Specific Trade Concerns
STPI	Software Technology Parks of India
TBT	Technical Barriers to Trade
WTO	World Trade Organization

EXECUTIVE SUMMARY

In 2012, the Compulsory Registration Order (CRO) was notified by the Ministry of Electronics and Information Technology (MEITY) under the provision of the Compulsory Registration Scheme of the Bureau of Indian Standards (BIS) Act 1986, now replaced by the BIS Act 2016.

The Compulsory Registration Order for electronics in India is a regulatory measure implemented by the government to ensure the quality and safety of electronic products being sold within the country. This order applies to a wide range of electronic goods, including appliances, mobile phones, laptops, and televisions.

The primary goal of this order is to protect consumers from potentially hazardous or faulty products that could pose a risk to their health or safety. By requiring manufacturers and importers to register their electronic products with the Bureau of Indian Standards (BIS), the government can ensure that these products meet certain standards for quality and safety.

As per the Order, "no person shall manufacture or store for sale, import, sell or distribute goods that do not conform to the Indian standard specified in the order. Manufacturers are required to apply for registration from BIS after getting their product tested from BIS-recognized labs." This was to ensure consumer safety and to stop the flow of sub-standard goods in the market. Products covered under CRO need to be tested for safety as per the applicable IS standard.

The process of registering electronic products with the BIS involves submitting detailed information about the product, including its technical specifications and manufacturing processes. This information is then reviewed by the BIS, which conducts tests to verify the product's compliance with relevant standards. If the product meets the necessary requirements, it is granted a BIS certification, which allows it to be sold within India. (over 25,000 registrations with a rate of growth of 3.5 per cent from 2018 to 2019) of various products notified in a phased manner (five phases covering 63 electronics and IT products)

Since its implementation, there have been different efforts by the regulatory agencies towards improving the transparency, digitization of the registration process and overall implementation of the order.

This research aims to assess the efficacy of CRO in terms of the gains brought out to stakeholders, challenges faced by the industry and key areas of reform that the government can potentially undertake to boost the ease of doing business.The study was conceived by the Manufacturers Association of Information Technology (MAIT) and US-India Strategic Partnership Forum (USISPF) and conducted in partnership with Bureau of Research on Industry and Economic Fundamentals (BRIEF), a New Delhi-based policy think tank. The core research team was comprised of economists, engineers and statisticians with domain knowledge and experience working in the Indian policy ecosystem.

The multi-city, nationwide study was conducted to understand the perceptions of consumers who are the main beneficiaries of CRO and to identify the concerns of the industry - brands and manufacturers, who are the key stakeholders in the process. The research adopted a mixed-methods design involving the assessment of relevant qualitative and quantitative information gathered from primary and secondary sources.

The study surveyed 508 consumers from 66 cities across India, in-depth interviews with 23 brands and manufacturers dealing in all product categories covered under the scope of the study (corresponding to IS-13252, IS-16046 and IS-616), all nodal authorities in the Government of India responsible for different facets of CRO, along with industry associations and testing laboratories.

Over the years, CRO has seen significant growth in terms of the number of registrations .

Currently, the scheme has about 20,000 licensees issued to products from 65 countries, with China comprising the maximum share (54 per cent of the total)

The CRO has been successful in restricting the supply of sub-standard products in the Indian market. Ever since CRO has been in place, more than 31,000 registrations have been granted by BIS to manufacturing units covering approximately 3,10,000 product models/ series.In 2014 there were 11 labs recognized for IS testing. As of 2022, this number has increased to 67 laboratories recognized for testing IS 13252 products, 60 for IS 616 and 36 for IS 16046. The CRO-enabled expansion of the testing network has resulted in a greater number of products coming under the ambit of BIS and receiving certification.

India experienced a CAGR of 17% in its exports of electronic products between FY 2014-15 to FY2019-20. CRO has played a key role in increasing the acceptability of Indian products in global supply chains thus contributing to the nation's growth.

The study evaluated the impact of the Compulsory Registration Order on consumer safety by surveying consumers to assess their perceptions of the safety of the electronic products they use.

The results showed that 73% of consumers believed that electronic products in the Indian market have become safer since the implementation of CRO, and 39% fewer consumers reported experiencing safety concerns compared to before CRO was introduced. Additionally, 52% of consumers prioritized safety over price when making purchasing decisions, demonstrating the importance of CRO in increasing both consumer safety and awareness.

With the introduction of the CRO, BIS has seen a rise in consumer support and acknowledgement, as 65% of consumers in India were more likely to purchase a product that was clearly labelled with safety certifications. The Indian consumer remains wary of dangerous products and is more safety conscious than other nationalities. The study survey also indicated that Indian consumers are willing to pay a premium for safety.

However, the implementation of CRO has not been entirely positive for the consumer.

Manufacturers and brands are unable to bring their entire catalogue of products to India due to the number of BIS certifications that would be required, and the subsequent costs incurred in the process

This results in a smaller variety of products made available to the Indian consumer. When asked, the brands, manufacturers and industry associations gave a 6.5 out of 10 rating to the CRO registration process (where 1 is very hard and 10 is very easy). The above higher rating can be attributed to a streamlined certification process including SMART Registration, Manak online portal and the Lab Information Management System (LIMS).

The lower ratings were attributed to the lack of predictability of the certification process, and poor transparency in the registration process, both leading to a high turnaround time.

The overall satisfaction level with the CRO process was given a rating of -40 on a scale between -100 and +100 using a Net Promotor Score methodology. This level is dissatisfaction results in poorer ease of doing business reputation of the CRO despite its consumer benefits.

Based on the review of the feedback from stakeholders from across the eco-system the study makes the following recommendations against key challenges and their negative effects.

To begin with a comprehensive assessment of the CRO processes is required for simplification and alignment with international standards. This would include the alignment with the IECEE to reduce the requirement for double certification (internationally and domestically). Currently, brands and manufacturers due to costs of recertification are disincentivized from bringing their entire product catalogue and thus restricting to India-specific models. Therefore for consumers, there is a narrower choice of products leading to sub-optimal purchasing decisions.

Then, a highly sought-after improvement is the provision for parallel testing of components of a finished product. In its current avatar, a manufacturer's product with multiple components for certification will be tested sequentially.

The current method results in delayed product launch as compared to other markets.

Next, the study recommends the development of a robust market surveillance policy and a CRO implementation strategy to bring unregistered products under scrutiny. Brands and manufacturers with good track records should be non-monetarily incentivized for their participation with the CRO. The availability of unregistered products on the market poses a threat to consumer safety, a key tenet of the CRO. They also provide a disproportionate advantage to the manufacturers of unregistered products.

There is a need to strengthen the query management system and human resource training and planning at the BIS. At present manufacturers suffer from weakened confidence in the certification process. The certification criteria should not be subject to the interpretation of the reviewer. It is currently unclear whether a component will be approved based on previous approval track records, even within the same component family.

There should be standardization in how the regulations are interpreted as part of the training provided by the BIS to its human resources. The current situation decreases process transparency and leaves manufacturers with a significant degree of uncertainty regarding the reliability of the process.

Lastly, product inclusion into CRO should be based on the severity of risk and safety. Those products that are low risk, both objectively and by consumer perceptions should be exempt from CRO certification. The CRO was conceived to protect consumers from the harmful effects of faulty and poorly designed electronics. However, the potential for a fault to cause grievous injury and pose a risk varies from product to product. Exclusion of low-risk products, especially Safety Extra-low Voltage products were identified.

This would reduce certification costs and increase ease of doing business and result in a quicker time to market for consumers at a more affordable price. The study provides additional and increasingly granular insights into challenges and recommendations across different product families along with multi-stakeholder perspectives on critical challenges.

The Compulsory Registration Order for electronics in India is a valuable regulatory measure that helps to ensure the quality and safety of electronic products being sold within the country. By requiring manufacturers and importers to register their products with the BIS and meet certain standards, the government can protect consumers and promote confidence in the products being sold within the market.

The IT hardware industry has consistently maintained high standards and sought to provide excellent products to consumers while also complying with the CRO. The CRO has brought numerous benefits to consumers, including increased peace of mind and greater trust in brands. Although the end-to-end certification process under CRO has improved significantly since its implementation, the industry has identified a number of concerns with the current system. In order to further streamline the certification process and improve the ease of doing business, it is necessary to conduct a comprehensive review of CRO that takes these concerns into account. It is important to periodically review policy measures to ensure their effectiveness, and as CRO has grown in scope since its inception, it is necessary to revisit the underlying implementation mechanisms.

KEY SURVEY FINDINGS

73%
Electronic products in the Indian market safer post introduction of CRO

75%
Prior to the introduction of CRO

36%
Post introduction of CRO Experienced one or more safety concerns

52%
Safety is more important than price in buying decision

CONSUMER PERCEPTIONS

34%
Limited product offering main reason for non-availability of products

43%
Delayed availability of products in the Indian market

60%
Substandard products easily or somewhat available in the Indian market

Relatively lower rating vis-à-vis importance of safety to Wireless Keyboards, Visual Display Units and Wireless Headphones/Earphones (compared to Laptops/Notebooks/ Tablets or Secondary Cells and Batteries)

KEY SURVEY FINDINGS

6.5
Score for level of ease with the registration process (where 1 is very hard and 10 is very easy)

-40
CRO Satisfaction Score on a scale of - 100 to 100

INDUSTRY CONCERNS

100%
Lack of market surveillance for un-registered products

77%
High turnaround time and lack of transparency in the registration process

65%
Two-step verification of products from foreign factories

54%
Gaps and inconsistency in the technical review of applications

1

INTRODUCTION

Indian electronics market is one of the largest in the Asia Pacific Region. The market will continue to expand with rising per capita disposable income, pushing the domestic demand for electronics products. To keep pace with the growing demand and the government's efforts[2] to position India as a global hub in the electronics sector, there arose the need to strengthen the regulatory framework for electronics and IT products.

Studies estimate the **unbranded segment constituted almost 25 per cent share of the market in 2012**, posing a serious threat to consumers in terms of counterfeit products, making wrong declarations to consumers in terms of specifications, lack of after-sales service and warranty, etc.[2]

Hence, **to ensure consumer safety and restrict the flow of sub-standard products in the market,** Compulsory Registration Order (CRO) was notified by the Ministry of Electronics and Information Technology (MeitY), in 2012, under the provision of the Compulsory Registration Scheme of the Bureau of Indian Standards (BIS) Act 1986, now replaced by the BIS Act 2016.

According to the WTO agreement on technical trade barriers, member countries can maintain technical standards that are scientifically verifiable, transparent, and non-discriminatory. Operated under Chapter IVA of Bureau of Indian Standards (BIS) Rules 1987, CRO applies to both domestic and international electronic/ICT manufacturing, wherein all products covered under CRO need to be tested for safety as per the applicable IS standard.

1. https://MeitY.investindia.gov.in/sector/electronic-systems
2. Government of India has notified different schemes (such as Production Linked Incentive Scheme for Large Scale Electronics Manufacturing) to promote domestic production, and maintained a conducive investment climate (100 per cent FDI allowed under the automatic route).

INDIAN ELECTRONICS MARKET[1]

USD
118
BILLION
Market Size

2.7%
Contribution to Gross Domestic Product

16.5
MILLION
Direct and indirect employment[1]

USD **31,136** MILLION in 2014-15 TO USD **75,264** MILLION in 2019-20

Domestic production of electronic goods

USD **47,313** MILLION Domestic Production > USD **42,874** MILLION Imports

Significant milestone in the year 2016-17

5
PHASES

79
PRODUCTS

20,605
LICENSES[5]

66
COUNTRIES

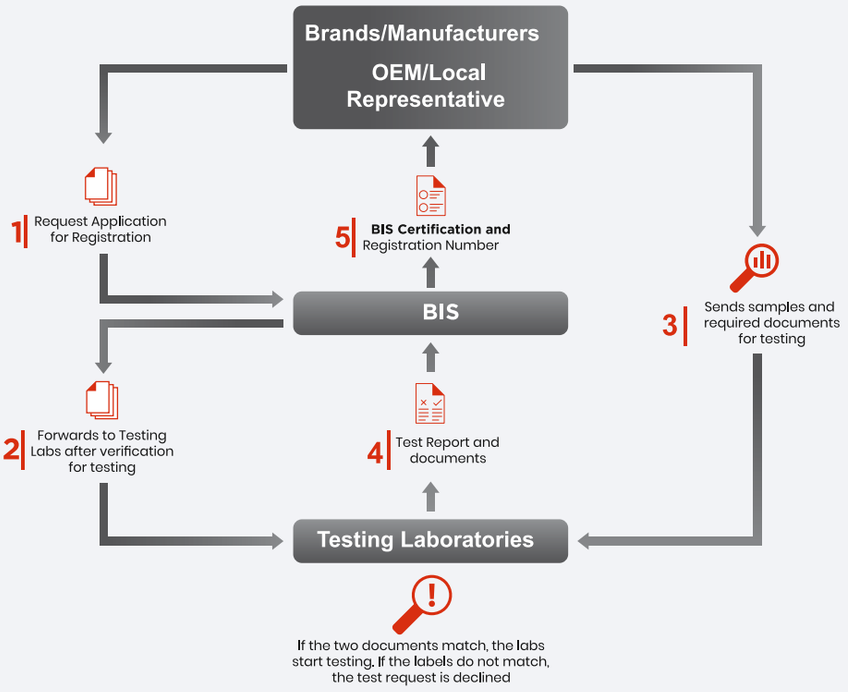
36%
LICENSES TO INDIAN PRODUCTS

51%
LICENSES TO CHINESE PRODUCTS

the Order, no person shall manufacture or store for sale, import, sell or distribute goods that do not conform to the Indian standard specified in the order.

Since its inception, a total of five phases have been introduced under the CRO. In the 1st phase, 15 categories of electronic products were included. Subsequently, four more phases in regular intervals were introduced, giving time to stakeholders to build adequate capacities in the form of infrastructure, manpower and technical understanding. In the last phase (Phase-V) effective from October 2021, the central government included more electronic products, taking the total to 79 products4.

MeitY is the nodal authority to frame the regulation, as far as Electronic and IT products are concerned, including monitoring the product scope. BIS issues registration for products in scope and takes action on non-compliant products. Manufacturers are required to apply for registration from BIS after getting their product tested by BIS recognized labs.



1. Full list available at https://MeitY.crsbis.in/BIS/products-bis.do
2. Bureau of Indian Standards: The National Standards Body in India. Bureau of Indian Standards (crsbis.in) https://www.crsbis.in/BIS/publicdashbAction.do

Regarding the effectiveness of the CRO program, there are following questions that this study aims to answer:

1. How has the implementation of the CRO been so far? Have stakeholders benefitted from it?
2. What are some of the key issues faced by the stakeholders?
3. Has CRO restricted the supply of sub-standard electronic goods into the Indian market?
4. Is the CRO operational process harmonized or aligned with international guidelines, global norms, and practices?
5. Is the market surveillance process robust enough to guarantee customers have access only to safe and certified products?
6. How convenient is the CRO registration process for a manufacturer? Is there a difference in processing of applications for domestically produced vs. imported products?
7. What are the reforms required to the program?

2

AIM, SCOPE AND METHODOLOGY

2.1 Aim

The study aimed to assess the efficacy of Compulsory Registration Order (CRO) notified by the Ministry of Electronics and Information Technology (MeitY) under the provision of the Compulsory Registration Scheme of the Bureau of Indian Standards (BIS) Act 2016

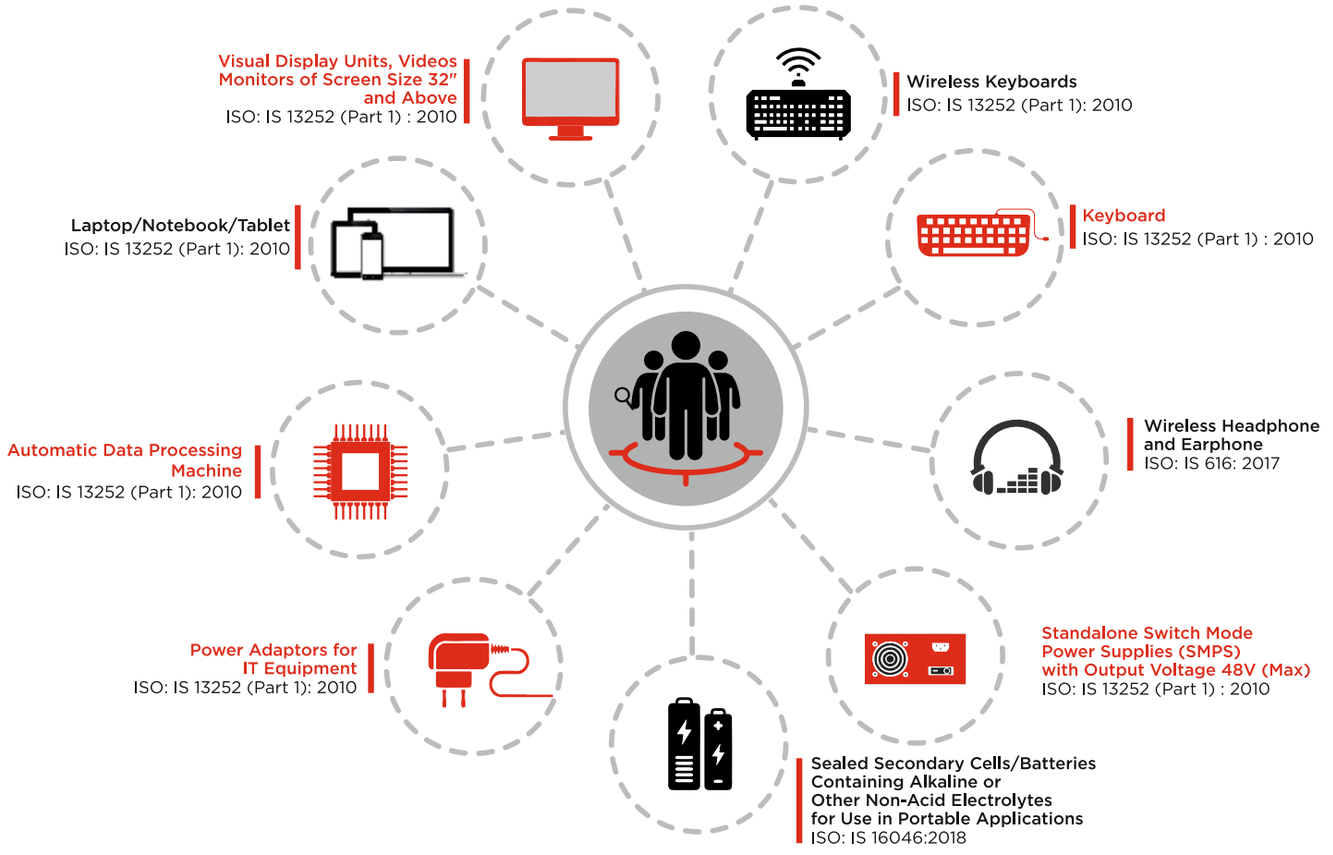
The study had a two-fold objective:

a) Impact evaluation where the gains brought out by CRO and challenges faced by industry were analysed

b) Policy recommendations where key areas of reform are suggested that can potentially boost the ease of doing business

2.2 Scope

The following nine product categories, corresponding to IS-13252, IS 16046 and IS-616, are focused on as a part of the research.



2.1 RESEARCH METHODOLOGY

The research adopted a mixed-methods design involving the assessment of relevant qualitative and quantitative information gathered from primary and secondary sources. Based on the objectives of the study, the research methodology was divided into two phases – a) Comprehensive Secondary Research and b) Qualitative and Quantitative Survey

2.3.1 COMPREHENSIVE SECONDARY RESEARCH

Research was conducted based on information available in the secondary domain to gather key insights into various focus areas identified for the study. This included assessment of the CRS portal, other national and international regulations, Technical Management of the Trade Information Management System of World Trade Organization and international trade data sets.

2.3.2 QUALITATIVE AND QUANTITATIVE SURVEY

Research study involved a multi-city nation-wide survey that included the following main categories of stakeholders:

2.3.2.1 SURVEY DESIGN AND SAMPLE COVERED

Based on the objectives of the study, specific questionnaires and discussion guidelines were prepared for each of the stakeholder categories, to gather in-depth understanding of stakeholder perceptions and challenges faced by them since the inception of CRO.

Consumer survey was conducted through an online survey, involving 508 consumers from 66 cities across India, across age groups and across different levels of educational qualification.

According to an age-group classification, 40 per cent of consumers fell in the category of 25-35 years and around 37 per cent in the category 35-45 years. Based on educational qualification, overall, 53 per cent of consumers were educated up to Graduate level, 30 per cent were educated up to Post Graduate level. Respondents were from a mix of Tier 1, Tier 2 and Tier 3 cities. 60 per cent of consumers were from cities other than Tier 1 and maximum consumers

508
CONSUMERS

23
BRANDS AND MANUFACTURERS

6
GOVERNMENT BODIES

3
INDUSTRY ASSOCIATIONS

4
TESTING LABORATORIES

Table 2.1: Demographic Profile of Consumers

Age Group	Number	Percentage
18-25 years	70	14%
25-35 years	204	40%
35-45 years	187	37%
45-55 years	40	8%
55 years above	7	1%
Highest Qualification	**Number**	**Percentage**
Higher Secondary	70	14%
Graduate	266	53%
Post Graduate	154	30%
Others	18	3%
City Category	**Number**	**Percentage**
Tier 1	204	40%
Tier 2	133	26%
Tier 3 and Others	171	34%

were from Delhi (27 per cent). Detailed demographic profile of consumers is given in Table 2.1.

The research also included 36 in-depth interviews with brands representatives and manufacturers, industry associations, testing laboratories and key government bodies. A subject matter expert was engaged to guide the multi-stakeholder conversations.

Brands and manufacturers dealing in all 9 product categories under the scope of study were covered. Many dealt in more than one product category. For example, in-depth interviews were conducted with 10 manufacturers dealing in laptops/ notebook/ tablet and 9 dealing in Visual Display Units. Inputs were also collected through an online survey customized for brands, manufacturers, and testing laboratories, that was active for four weeks.

Interviews were conducted with industry associations, namely Electronic Industries Association of India, Electric Lamp and Component Manufacturers, and Telecom Equipment Manufacturers Association, to understand the concerns faced by members of these associations.

To complement the findings from the survey, research team undertook field visits to testing laboratories for a more detailed understanding of their infrastructure, processes and concerns. Limited laboratories were interviewed as the testing procedure and methodology followed by laboratories are very similar, only equipment varies.

Lastly, one-on-one meetings were conducted with key government authorities dealing in CRO - Ministry of Electronics and Information Technology (MeitY), Bureau of Indian Standards (BIS), Software Technology Park of India (STPI), Department for Promotion of Industry and Internal Trade (DPIIT), Directorate General of Foreign Trade (DGFT), Invest India - to understand their perspective in terms of the concerns raised by industry and areas of reform suggested by the research.

3

STAKEHOLDER BENEFITS FROM CRO

MEITY notified CRO to ensure that only tested and certified IT products were available in the market for the citizens of the country. The Order has impacted each stakeholder differently, be it consumers, the industry or the government. This chapter attempts to capture how the stakeholders have benefitted.

1. Access to safety-certified products
2. Support Atmanirbhar Bharat in electronics manufacturing
3. Strengthened capacity of conformity assessment infrastructure

3.1 Access to safety-certified products

As per the survey conducted during the study, 73 percent of consumers felt that electronic products in the Indian market have become safer post-introduction of CRO. This is also reflected in decreasing number of consumers experiencing any of the safety concerns like fire or overheating, cut from a sharp edge, injuries because of poor product design, electric shock, choking, etc. While 75 per cent reported having experienced one or more of these concerns prior to the introduction of CRO, 36 per cent experienced it post-introduction of CRO.

Ever since CRO has been in place, more than 31,000 registrations have been granted by BIS to manufacturing units covering approximately 3,10,000 product models/series[6]. During the same period, a total of 3525 applications, and just in the year 2021, 52 new applications, 36 inclusions, and 2 renewals were rejected by BIS. This is reflective of the robust process that the BIS must ensure stringent implementation of safety standards in India.

The CRO-regulated products are surveilled post-testing and certification to help ensure accountability. An example of this was seen on the 21st of September 2020, wherein the Parliament of India the seven CRO certification were rescinded for non-compliance. [7]

6. https://MeitY.meity.gov.in/writereaddata/files/MeitY_AR_English_2020-21.pdf
7. http://164.100.24.220/loksabhaquestions/annex/174/AU1665.pdf

Consumer awareness of product safety has evolved over the years which is reflected in 52 per cent of consumers choosing safety over price while making a purchase decision.

According to another survey conducted by TUV SUD in 2017[8], consumer data was collected from top-tier cities across China, Germany, India and the US. It was found that 96 per cent of consumers in India were willing to pay a premium for safe products, much higher than the global average of 87 per cent. About 65 per cent of consumers in India were more likely to purchase a product that clearly and transparently stated compliance with safety standards on its packaging.

Some of this is attributable to different measures undertaken by the Government of India that help build consumer confidence as mentioned below:

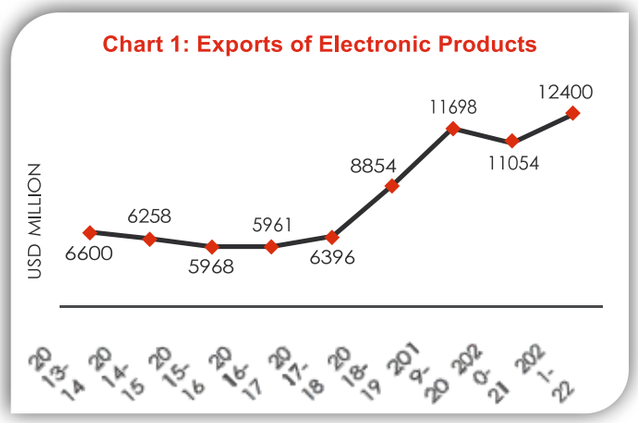
- If a regulated product is not registered with BIS but sold in the Indian market, the manufacturer is liable for prosecution under clauses 3(2) (deformation of the product beyond use) and 4(3) (seizure of products).9 Import consignments without valid BIS registration have to be re-exported by the importer failing which customs may deform the goods and dispose of them as scrap after informing MEITY.
- Enforcement raids10 carried out by BIS to curb the misuse or imitation of Standard Mark by unscrupulous traders and manufacturers not holding valid BIS licenses11 has shown results too.
- Consumers can also submit complaints through the BIS CARE mobile phone app that was launched to enable stakeholders to verify the authenticity of certified electronic goods under CRO

The existence of a forum for the redress of their complaints further adds to building consumer confidence.

3.2 Support Atmanirbhar Bharat in electronics manufacturing

India's exports of electronics products, as given in Chart 1, have shown an increasing trend with a CAGR of 17 per cent from FY 2014-15 to FY 2019-20. This is partly attributable to improved market access and more acceptability for Indian products in global value chains.

Chart 1: Exports of Electronic Products



Source: https://pib.gov.in/PressReleaseIframe Page.aspx?PRID=1814031

After the initial dormancy during 2013-2016, exports continued to increase thereafter, witnessing an overall jump of 88 per cent from 2013-14 to 2021-22. Different government schemes have contributed towards this and promoted electronics manufacturing in the country. CRO is one of them, as mentioned in the Press Release[12] dated 6 April 2022, issued by MEITY.

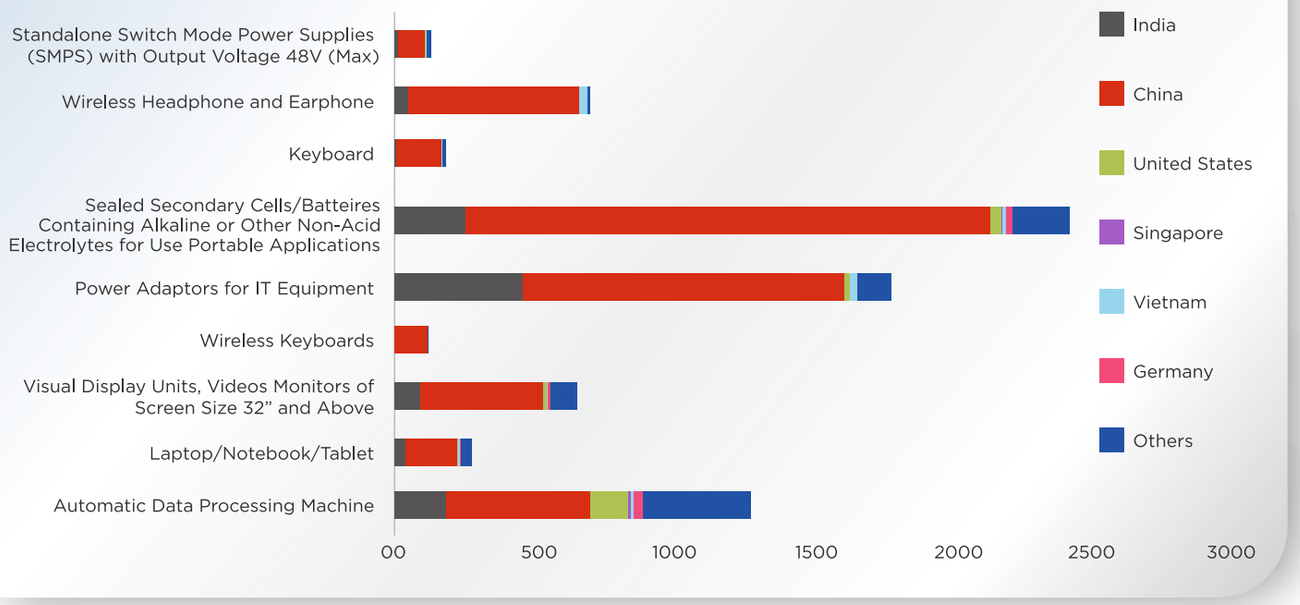
8. https://MeitY.tuvsud.com/en/-/media/global/pdf-files/whitepaper-report-e-books/safety-gauge-report-2017/tuvsud-safety-gauge-electronics-report.pdf
9. http://MeitY.jawaharcustoms.gov.in/pdf/PN-2018/PN_136.pdf
10. BIS team raided LED lights manufacturing firm in January 2020, for misuse of the BIS Compulsory Registration Mark and the BIS logo, without a licence, violating Section 17 (3) of the BIS Act, 2016.
11. https://MeitY.bis.gov.in/index.php/consumer-overview/consumer-overviews/enforcement-activities/
12. https://pib.gov.in/PressReleasePage.aspx?PRID=1814031

3.3 Strengthened capacity of conformity assessment infrastructure

As of 2022, there are 67[14] laboratories recognized for testing of IS 13252 products, 60 for IS 616, and 36 for IS 16046, compared to a total of 11[15] BIS-recognized laboratories in 2014, reflecting the rapid expansion of conformity assessment infrastructure in India.

CRO has helped strengthen the available testing infrastructure and expand the network of testing laboratories in India which could evaluate the compliance of electronics and IT goods to notified safety standards, and facilitate exporters to test their products.

Chart 2: COUNTRY WISE LICENSES



Source: https://www.crsbis.in/ Accessed on 18th February 2022

13. The Vision document (Volume-I) focuses on the opportunities and key inputs to increase India's share in the Global Value Chain and build large-scale manufacturing capabilities to achieve a substantial share in the global electronics trade.
14. http://164.100.105.198:8096/bis_access/iswise_query_v2.asp?txtIS=13252&View=View
15. Ministry of Communications & Information Technology, Department of Electronics and Information Technology (DeitY), Electronics and Information Technology, Annual Report 2014-15

4

MOVING TOWARDS CRO 2.0

One of the objectives of this research is to assess the efficacy of CRO and identify the challenges faced by the industry. For this purpose, an industry-wide survey was conducted with Brands owners, manufacturers, and industry associations. A total of 25 Brands participated in this survey.

Research Methodology

The report has used Net Promoter Score (NPS) as a tool to quantify its findings. NPS is a globally recognized methodology using a scale of 0-10 to measure the customer experience. NPS is a scale that ranges from 0 to 10, with respondents grouped into three categories: Proponents (scores of 9-10), Passives (scores of 7-8), and Detractors (scores of 1-6). The NPS is calculated by subtracting the percentage of Detractors from the percentage of Proponents. The NPS can range from a low of -100 (if all respondents are Detractors) to a high of +100 (if all respondents are Proponents).

NPS of Survey

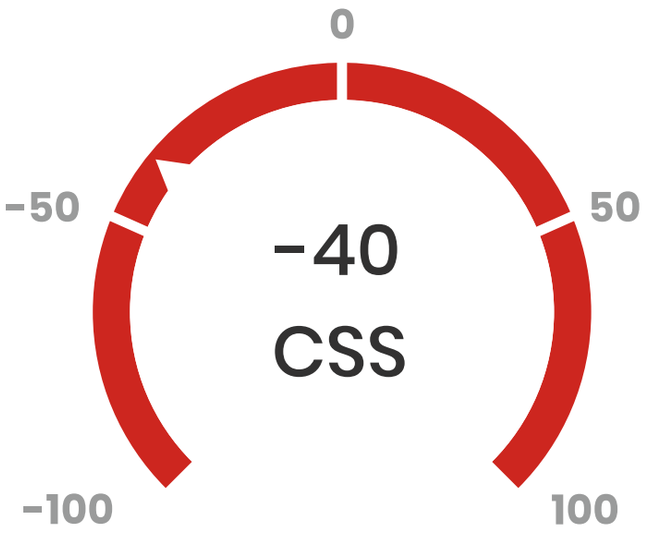
During the survey, brand owners, manufacturers and industry associations were asked to rate their level of ease with the CRO registration process on a scale of 1 to 10 and below are the results: -
The top row of numbers represents the rating given, while the bottom row of numbers reflects the number of brands that gave that rating. For example, three brands gave a rating of 10 and five brands gave a rating of 8.

0	1	2	3	4	5	6	7	8	9	10
		2		1	5	6	2	5	1	3

Percentage of Promoters	Percentage of Detractors	NPS
16% {calculated as (3+1)/25*100}	56% {calculated as (2+1+5+6)/25*100}	Minus 40 (16%-56%}

Analysis of Score

NPS of minus 40 was calculated basis the difference between promoters & detractors depicted as below



The higher ratings were given by proponents (a total of 4 out of 25 surveyed) where on account of a reasonablystreamlined certification process, owing to different measures such as SMART Registration[16], Manak online portal[17], and Laboratory Information Management System (LIMS) that has helped automate the registration process and move towards a streamlined regulatory and compliance ecosystem.

The lower ratings are given by detractors (a total of 14 out of 25 surveyed) were primarily attributed to the lack of predictability and transparency in the registration process leading to a high turnaround time

16. SMART Registration has made the process of Registration fast, transparent and completely paperless
17. The online portal was developed as a part of the integrated portal which has automated the activities under product certification, including grant of license, inclusion, renewal and ensures real time monitoring of the status of each application

COMPULSORY REGISTRATION ORDER (CRO) | 20

4.1 Key Challenges faced by the industry

Below is a list of top challenges faced by brands and manufacturers, with the number denoting the percentage of brands and manufacturers citing the challenge as a concern.

100%
Lack of market surveillance for un-registered products

77%
High turnaround time to complete registration and lack of transparency in the registration process

65%
Two-step verification of products from foreign factories

54%
Gaps and inconsistency in the technical review of applications

54%
Lack of mutual recognition of conformity assessment leading to high time and cost of compliance

50%
Product family series guidelines differ from equivalent international guidelines

50%
Sequential testing of components within the same product

Example: High Turnaround Time

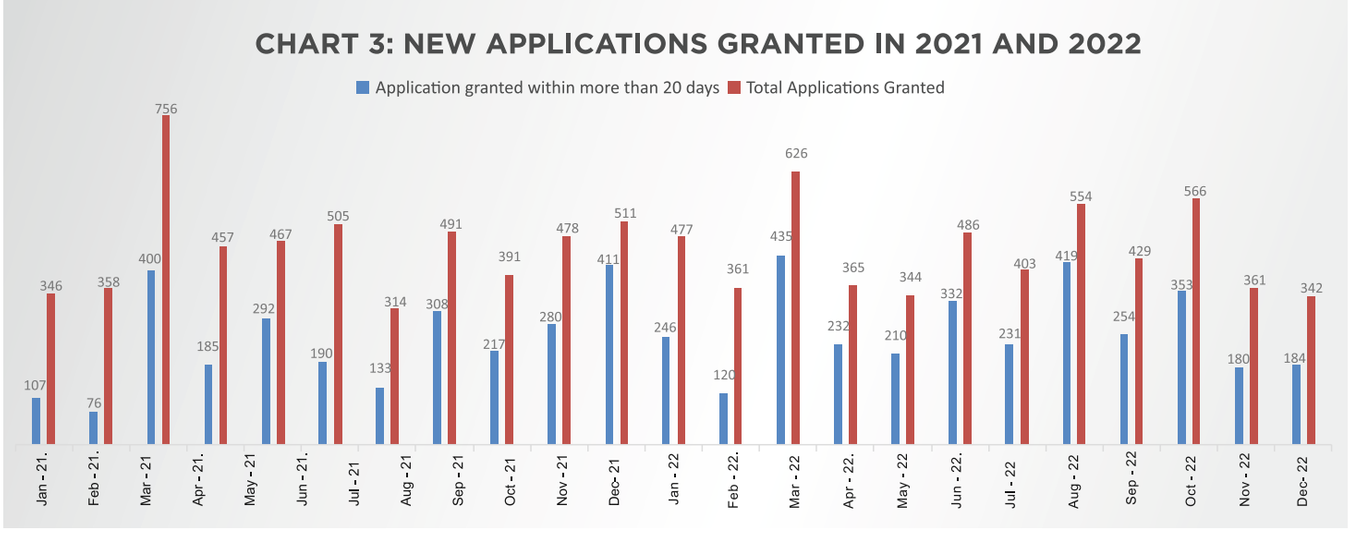
In the year 2021, most of the applications took more than 20 days for new registration, impacting the ease of doing business, product launch schedules and domestic as well as foreign manufacturers given the globalized nature of supply chains.

As can be seen from the data in Chart 3, for seven months in 2021, more than 50 per cent of the applications took more than 20 days for new registration (maximum being 74 per cent in November 2021)

According to BIS, normal time for grant of registration is about 20 working days[18].

Some of the key reasons highlighted for high turnaround time are a) unpredictable time for query resolution, and b) Additional No Objection Certificate required for products from foreign factories.

CHART 3: NEW APPLICATIONS GRANTED IN 2021 AND 2022



Source: https://MeitY.crsbis.in/ Accessed on 23rd November 2022

18. Note 2 at https://MeitY.crsbis.in/BIS/howtoapply.do

4.2 Recommendations & Focus Areas for Reform

To improve the efficiency and address some of the challenges facing the Compulsory Registration Order (CRO) process, the report recommends a comprehensive assessment of the CRO and direct interactions with the industry, validated by findings from a consumer survey. These recommendations are based on a thorough analysis of the CRO and its impact on stakeholders.

Recommendation (1): Comprehensive review for simplification and harmonization of CRO

For any policy, periodic review is an integral element to improving the effectiveness and overall implementation. CRO has been in place for close to10 years. **Lower satisfaction ratings given by the industry, as seen in the NPS of - 40, calls for the need for a comprehensive review of CRO's framework and operating procedure.**

Majority of brands and manufacturers have cited high turnaround time, lack of transparency in the registration process, and lack of harmonization with international standards among the top challenges faced by them.

Different countries have raised specific trade concerns[19] in the WTO meetings, revolving around "transparency and excessively burdensome administrative delays linked to registration", reflecting the need for simplification and harmonization of CRO.

Below are several suggested areas for reform to simplify and consolidate the Compulsory Registration Order (CRO). It is recommended that a comprehensive review of the CRO be conducted, focusing on the following areas:

1. Revising the family series guidelines to fully align them with the IECEE guidelines.
2. Allowing parallel testing of components to reduce the lag period between product launch in India and other advanced economies.
3. Basing product inclusion on a risk-based approach to safety and removing certain low-risk SELV products from the CRO.
4. Establishing a pre-defined gestation period of approximately one year for any policy changes or amendments.
5. Improving query management and manpower planning at the BIS.

Recommendation (1a): Revision of family series guidelines to harmonize it completely with IECEE guidelines

The family[20] series guidelines defined by MeitY are not aligned with the equivalent IEC 60950-1 guidelines that are adopted internationally. Annexure-A highlights how the family series guidelines differ from IECEE, thus creating time and cost inefficiencies in results for no material gain with respect to safety.

Concern for manufacturers

India-specific unique requirements impact the global supply chain and limit the product offerings in India

19 IMS ID 367 (25 times between 06.03.2013 and 02.06.2021) and IMS ID 482 dated 04.11.2015

20. A product family can be defined by the maximum configuration of components / sub-assemblies plus a description of how the models are constructed from the maximum configuration using these components and sub-assemblies. All models which are included in the family typically have common design, construction, parts, or assemblies essential to ensure conformity with applicable requirements. If a product standard defines a product family, in the context of the specific standard, this definition takes over.

Concern for consumers

Offered limited product models in India resulting in consumers settling in for a lower configuration or paying more for a higher configuration leading to sub-optimal utilization.

This was confirmed from the consumer survey where 34% of consumers felt that limited product offering is one of the main reasons for non-availability of the product they are looking for.

One of the **India-based global brands** shared the below analysis of the impact of the existing family series guidelines during the interview. The figure below shows the cost impact analysis for 4 different models of servers that the brand was launching.

In all other markets, the safety regulation only required the highest configuration to be tested and deemed that all other lower models would be compliant if that complied. In India, the family series guidelines require that every configuration must be tested thus increasing the time to market and cost as shown below.

BIS Cost Impact Analysis for Servers (Global Brands)

	Model A	Model B	Model C	Model D
Configurations	24	72	108	132
Total number of sample required	24	72	108	132
BIS Certification fee	$70K	$210K	$310K	$380K
Sample shipping fee	$75K	$220K	$330K	$400K
Lead time	55 weeks	151 weeks	223 weeks	271 weeks
Final Total Cost	$145K	$430K	$640K	$780K

Total BIS certification $2M
(Doesn't include samples cost)

Similarly, an Indian Brand manufacturing Servers, Workstations, & Storage has shared the analysis below of their costs during the interview process

BIS Cost Impact Analysis for Servers (Indian Brand)

	Server	Workstation	Storage
Configurations	42	12	7
Total number of samples required	42	12	7
BIS Certification fee	37,80,000	10,80,000	6,30,000
Sample shipping fee	2,10,000	60,000	35,000
Lead time	250 weeks	96 weeks	56 week
Final Total Cost	39,90,000 ($48.5K)	11,40,000 ($14K)	6,65,000 ($8K)

Total BIS certification $70K
(Doesn't include samples cost)

Also, another India-based global Brand with portfolio of Laptops, Notebooks, AIOs, keyboards, and power adaptors shared the analysis of their costs found below

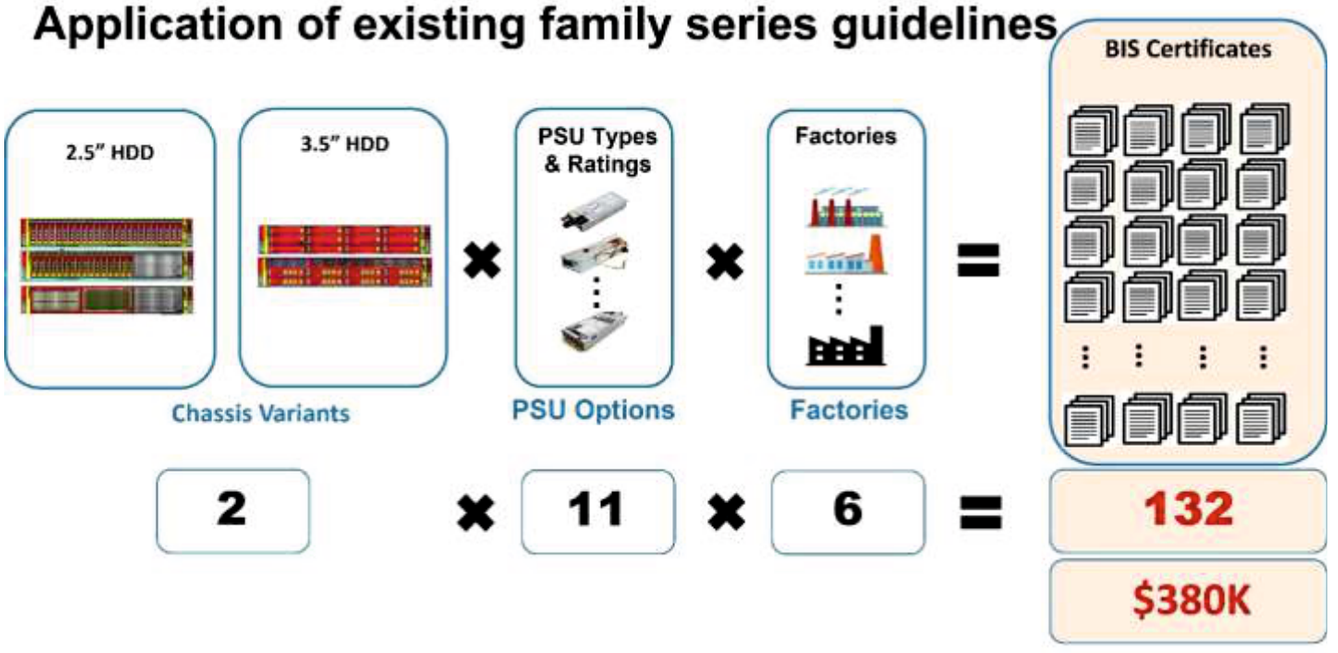
BIS Cost Impact Analysis for IT equipment except Servers (Global Brands)

	Laptop/ Notebook	Workstation/Thin client /RPOS/AIO/Mini PC	Keyboard	POWER ADAPTOR FOR IT EQUIPMENTS
Configurations	419	383	66	225
Total number of sample required	419	383	66	225
BIS Certification (A) Sample shipping (B)	A+B= $1 M	A+B= S1 M	A+B= S132K	A+B= $450K
Lead time				
Final Total Cost	$1M	$1M	$132K	$450K

Total BIS certification $2.6 M
(Doesn't include samples cost)

Referring to the first example of India-based MNC manufacturing servers; the Figure below shows an illustration of how the Family Series guidelines apply on servers and thus increase the number of models to be tested and certified. It is pertinent to note that no other countries' regulation requires such multiple testing of different configurations of the same model to establish compliance.

Application of existing family series guidelines



After carefully analyzing the inordinately long certification lead times and the cost impact of the guidelines, the brand decided to reduce the number of configurations to be offered in India as shown in Figure below

What the brand did?

- ***Are there any configurations that we are not offering to India market ?***
- ***Could we simplify / optimize configurations strategically for India offering ?***

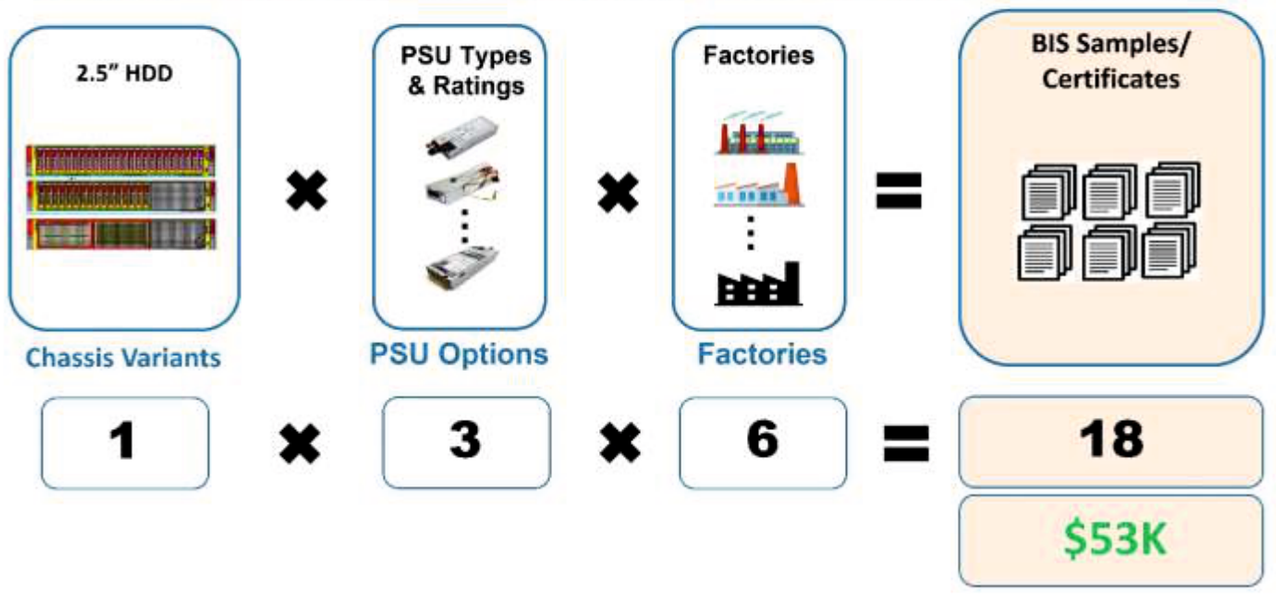


Table 4.1 below makes recommendations in terms of how the family series guidelines can be aligned with the IECEE.

Table 4.1: Recommended revision in family series guidelines

Product/Guideline	Recommendation[21]
Automatic Data Processing Machine (Basic Configuration - Mains operated with internal power supply)	◆ Allow for different combinations of sub-assemblies (disk-drives, DVD-drives etc.) ◆ The power supply can have an output connector interface for a hot swap or a standard slot to connect to the host device. For a host device with a cable power supply and a redundant power supply, the output connector interface may or may not match ◆ The power supply can have different output ratings, different number of outputs, and different component ratings
Laptop/Notebook/Tablet	◆ Product series should allow for the Adapter to have different output ratings ◆ Power Adaptor (Alternate models of power adaptor with same rating could be waived test with system if certified by BIS ◆ Same enclosure except for differences of decoration parts ◆ Battery to be treated as component (Alternate sources of battery may be evaluated as part of the main product)
Power Supply/Power Adaptor	◆ Product series should allow for the power supply to have different output ratings, different number of outputs, and different component ratings. ◆ Allow for different configurations of sub-assemblies such as hard drives, disk drives, and media drives (e.g. 2.5 in vs 3.5 in) ◆ Same enclosure ◆ Same mains PCB design layout and transformer. Under a series definition, manufacturers should be allowed to change the insulating material in the transformer in order to comply with RoHS requirements
The upper limit of 10 products in a series	No upper limit to the number of products that can be added under the family series guidelines, in line with the international guidelines.

21 .Based on recommendations made by the Information Technology Industry Council and stakeholder interactions.

Recommendation (1b): Allowing parallel testing of components, reducing lag period between the product launch in India with the more advanced economies

Different components[22] have to be certified *one by one* before the final product goes for testing.

From ***regulator's perspective,*** this is to ensure that the final product is not certified unless all the components are proved compliant.

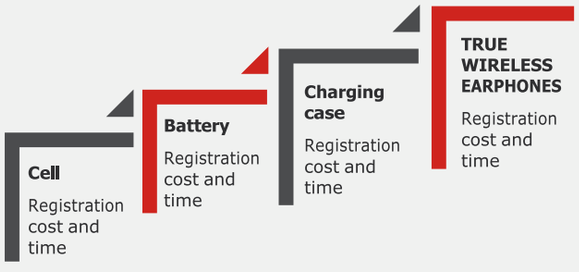
From ***industry's perspective,*** this was highlighted as an area of concern by **50%** of brands and manufacturers as this increases the time for compliance, to the extent that it impacts the product launch schedule in the Indian market, calling off the launch in cases of significant lag compared to the launch in other markets

From ***consumer's perspective,*** this impacts the availability of products in the market. This is confirmed by **43%** of consumers feeling that there is delayed availability of products in the Indian market.

Example: Sequential Testing of True Wireless Earphones

As seen in Chart 4, to acquire certification for a wireless earphone, the brand must secure 3 BIS certificates one by one (each for cell, battery, and charging case) other than for its final product. This multiplies the cost and time taken to obtain a certificate for wireless earphones by four times. Similarly, for laptop, the manufacturer must secure 3 certifications – for battery, power adaptor and then laptop.

Chart 4: Sequential testing of True Wireless Earphones



Brands should be allowed to begin parallel testing of components, provided that the test report for the final product is held until all components are proven to be compliant. This will address the concerns of regulators that the final product should not be certified unless all components are compliant.

Allowing parallel testing of components will reduce the time it takes for a product to reach the market, helping brands to follow their product launch schedule and reducing the lag period between product launch in India and other advanced economies.

While the study identified the need to allow parallel testing in where products require individual testing of its components, BIS, through a notification has implemented a pilot on similar lines. As per the notification mobile phones have been allowed to be tested in parallel. Industry regards this as a progressive move and appreciates the government for the support.

21. RO applies to finished goods and also to spare parts/components used in the manufacturing of the finished goods if they are notified separately as independent products under CRO.

Recommendation (1c): Product inclusion to be based on safety risk-based approach and removal of certain low-risk SELV products

The importance of safety varies across different product categories, depending on consumer perceptions of risk. According to a survey conducted as part of the study, consumers rated the importance of safety for wireless keyboards, visual display units, and wireless headphones/earphones lower than for products such as laptops/notebooks/tablets or secondary cells and batteries. This suggests a need to define criteria for including new products under the Compulsory Registration Order (CRO) based on the perceived level of risk.

Presently, there are no defined criteria for the inclusion of new products under CRO. While high-risk products ought to be subject to stringent conformity procedures, businesses have expressed concerns regarding the expansion notifications that are focusing on low-risk products. The inclusion of the Safety Extra Low Voltage (SELV)[23] products and components in CRO increases the burden of compliance on the manufacturer without adding any value for the consumer.

Hence, new products should be included in the scope of CRO based on a safety risk-based approach considering the safety perceptions of different products and views of the industry players. Removal of certain low-risk products such as built-in, non-detachable components or products which are Extra Low voltage/ Low Voltage Devices could be considered.

This would help improve the ease of doing business for manufacturers and consumers would get the latest technology at affordable prices.

Recommendation (1d): Pre-defined gestation period of about 1 year, for any policy change/ amendment

To comply with new or revised guidelines issued by the Ministry of Electronics and Information Technology (MeitY), the industry has often requested additional time to meet the requirements of the Compulsory Registration Order (CRO). For example, the industry requested more time to comply with the CRO's Phase V, which was originally scheduled to take effect on April 1, 2021, but was later extended to October 1, 2021[24]. Another example is the Schedule of Gazette notified on November 13, 2014, in which the industry requested more time to comply with the CRO, resulting in the implementation date being extended from December 1, 2015 to June 1, 2016 for sealed secondary cells/batteries[25].

Overall system readiness and need for an adequate planning horizon should not be ignored before announcing the effective date for any new/revised guideline or for product scope expansion. **A pre-defined gestation period of about 1 year should be made mandatory for any policy amendment.**

Recommendation (1e): Query management and manpower planning at BIS

54% of brands and manufacturers cited gaps and inconsistency in the technical review of applications as a concern, leading to longer turnaround times for applications. This is due to either a lack of sufficient technical training on standards and technological advancement in the IT hardware industry, or frequent turnover of reviewers. The inconsistency in technical review caused by different interpretations by different reviewers is a further obstacle for brands that do not have a presence in New Delhi and cannot afford in-person follow-ups.

20. SELV (Safety Extra Low Voltage) describes a voltage that is set so low that in the event of direct touch either during proper operation or in the event of a single fault there is no danger of electric shock due to touch current.
21. MeitY.crsbis.in/BIS/app_srv/tdc/gl/docs/225848.pdf
22. https://MeitY.meity.gov.in/writereaddata/files/Gazette-Notification-dated-30th-Nov-2015.pdf

Provision of continuous technical training to reviewers and standardization of the nature of queries (based on queries raised in last few years) can help reduce the number of repetitive queries, improve interpretation of queries and consistency in technical reviews. **Less frequent turnover of BIS reviewers and alignment of manpower allocation as per the anticipated peak in volume of applications will** further reduce the overall turnaround time of the applications.

Recommendation (2): Pre-defined market surveillance framework (including surveillance of unregistered products, incentives for compliant products, and a process reliant more on visual inspection)

100%
of the brands and manufacturers

It has been observed that current market surveillance framework focuses only on registered products

60%
of the brands and manufacturers

Experienced that substandard products that do not meet the requisite safety criteria are easily or somewhat available in the Indian market

76%
of LED bulb brands and

71%
of LED down lighter brands

Found non-compliant with CRO safety standards, as per survey[26] conducted by Nielsen Holdings in 2018 across four Indian cities – Ahmedabad, Hyderabad, Mumbai and New Delhi

The current framework for the Compulsory Registration Order (CRO) primarily focuses on ensuring compliance with registered products. As a result, unregistered or non-compliant products continue to be available in the Indian market, competing with registered products on price and giving manufacturers of unregistered products an unfair advantage over legitimate brands. To address this issue, the market surveillance process needs a pre-defined framework that is developed through a consultative approach and subject to periodic review.

Therefore, market surveillance process needs a pre-defined framework finalized with a consultative approach and subject to a periodic review. There have been new guidelines issued, dated 18 April 2022, by the BIS for surveillance of licenses under CRO and checking the compliance of products available in the market as per the applicable standard.

The guidelines entrust the Registration Department at BIS Headquarters as the nodal department for monitoring the market surveillance and lists the surveillance activities, process of procurement of product samples and feedback from the buyers.

However, the framework should also include surveillance of unregistered products through visual inspection and use testing on critical safety parameters as the last resort, as detailed below:

- **First step verification:** Visual inspection of the registered as well as unregistered products to ensure the presence and compliance (quality of label, place, size, power rating, power cable, plug, etc.) of the BIS marking on the packaging. Verification of the registration number on the product and packaging with the information in BIS/ MeitY record files.

26. https://MeitY.pressreader.com/india/consumer-voice/20180201/281565176243883
27. 15-year-old Jaipur boy dies after his Bluetooth headphone explodes, India Today, August 7th 2021; An electric scooter's battery exploding; raises safety concerns, The Times of India, September 29th 2021

- **Second Step Verification:** Seeking clarification from an authorized Indian representative (AIR) for additional information to complete the investigation and seek a response in a predefined period. If the surveillance authority is not satisfied with the response of AIR, seek information from BIS about the test results based on which the initial product registration was done.
- **Third Step Verification:** Limited testing on critical safety parameters instead of repeating the complete testing, if the surveillance authority is not satisfied with the response of BIS. In case of first test failure, AIR to be contacted and MeitY can pick up a fresh sample from the market for 2nd testing. In case of non-conformity even

Additionally, the **cost of surveillance** should not be borne by the registered user if the testing proves the product to be compliant. Other agencies like the Central Pollution Control Board (CPCB)[28] follow similar guidelines where market surveillance is not an extra cost for registered compliant users.

A market surveillance score can be developed based on the history of the brands' previous market surveillance results, introducing a green channel where surveillance is conducted for high score brands only in case of any specific complaint or suspicion.

Recommendation (3): Recognition for conformity assessment with testing laboratories of the IECEE National Certification Body, subject to the provision that re-testing will be conducted in a BIS-recognized laboratory only for national deviations in technical requirements

Conformity assessment conducted in a foreign laboratory is not recognized in India, and as a result products already tested as per international safety standards in an overseas laboratory and carrying the international compliance certificate must be retested in a BIS-recognized laboratory.

This results in:

Delayed market entry, as cited by **43%** of consumers during the survey

Re-testing in India increasing the time and cost of compliance, as cited by **54%** of brands and manufacturers

Specific trade concerns[29] raised by different countries in the WTO meetings, revolving around "capacity of recognized labs, recognition of accredited foreign conformity assessment bodies, mandatory frequency of testing and in-country the government should impose graded penalty.

testing requirements, lead-time of testing, and test reports subject to unnecessary expiration date" demonstrate the gravity of this challenge.

Mutual recognition for conformity assessment with testing laboratories of the IECEE National Certification Body (NCB) can be established, subject to the provision that re-testing will be conducted in a BIS-recognized laboratory only for national deviations in technical requirements.

This will help eliminate the cost of multiple testing, allow easier compliance, facilitate faster market access and also help Indian exporters get conformity assessment reports from Indian laboratories recognized in foreign markets. Mutual recognition with strategic/large-market countries like the USA and China, and Taiwan, Vietnam, Germany and Singapore (top import partners as well as top licensees for the selected 9 product categories) will help Indian MSMEs and manufacturers who design and manufacture their products in India and export to these countries.

28. CPCB conducts random sampling of electrical and electronic equipment placed in the market to monitor and verify their compliance with RoHS provisions. Cost for sampling and testing is borne by the government for conducting the RoHS test. If the product does not comply with RoHS provisions, then the cost of the test is borne by the producers. The producer shall take corrective measures to bring the product into compliance and withdraw or recall the product from the market within a reasonable period as per the guidelines of the CPCB.
29. IMS ID 367 (25 times between 06.03.2013 and 02.06.2021) and IMS ID 482 dated 04.11.2015

Recommendation (4): Exemption of customs duty on test samples imported for testing (subject to e-waste disposal certificate)

According to current rules and regulations, customs duty can be waived on five test samples if the samples are returned to the country of origin after testing. However, in many cases, the cost of returning the samples is higher than the customs duty itself. There have also been delays in approving this exemption due to queries raised by customs officers at the designated port, even with proper documentation. To address this issue, it is suggested that test samples be exempt from customs duty without the requirement of returning them to the country of origin. Instead of requesting a certificate from testing labs before testing, the provision could state that the product will be used only as a sample and will be disposed of after testing

Example: UK - No import duty or VAT on importing goods for testing

UK allows relief from Customs Duty, VAT and Excise Duty on goods imported for testing, analysis, or examination. The National Imports Reliefs Unit needs to be notified at least 48 hours before the relief is claimed. If satisfied, an approval note is given to be presented with the import declaration, which includes confirmation of the import quantity and the last date for completion of testing. If the goods are left over, one can: pay duty and VAT; destroy them free of duty and VAT subject to permission; convert them into waste and scrap and pay any duty and VAT that may be due[31].

Recommendation (5): Define the objectives, goals, and a roadmap for CRO and stick to it.

In the early industry-government dialogues of 2012, when MEITY first announced intent of CRO it was presented as a saviour of the citizens from spurious goods that were a safety threat to Indian citizens. A cursory review of the Column 4 in the Schedule to the Electronics and Information Technology Goods (Requirement for Compulsory Registration) Order, 2012 will confirm this. However, to date, neither MEITY nor any other competent body has studied or published the efficacy of CRO in protecting consumer safety in the country. Increasingly, CRO has only been used as a tool to regulate more products that are not a safety concern at all.

Off late, MEITY has demonstrated interest to bring in various other parameters and standards under the CRO and force additional testing of products which only benefit the lab and not the consumers.

In the absence of any publicly available information on the efficacy of CRO, participants of the study recommended MEITY for an introspection of the objectives and goals of CRO before considering any expansion of standards and product categories.

Whenever a regulation is implemented, it must be purposeful. Regulations implemented without the goal of solving a problem only add to operational, administrative and financial burden along with increasing compliance risk thus hampering ease of doing business tremendously.

In 2022, MEITY and BIS conducted consultations with the industry on a cuple of programs that could impact the supply chain and increase overall cost of compliance.

Unification of Standard Marks

BIS wanted to eliminate multiple markings under practice and unify them under the ISI mark. BIS conducted consultations and received inputs from the industry and agreed to drop the effort based on the below:

Industry appreciates the efforts taken by BIS over past several years in publicising and making consumers aware of the importance of procuring BIS self-declaration marked products. All these years of hard work has finally started paying off as consumers have started recognising the safety marks on the product. However, with the proposal of substituting the safety self-declaration mark with ISI mark, industry feared all these public money invested, and BIS' efforts made towards building a reputation for the Safety self-declaration mark would be wasted. The substitution of the safety self-declaration mark with the ISI standard mark was just a cosmetic change and does not change anything in terms of the product safety and neither does it add any value or change/influence the consumers' purchase decisions. Hence, we strongly recommend BIS to re-evaluate its amendment proposal.

EMI/EMC for laptops and mobile devices.

MEITY communicated its intention to implement EMI/EMC testing for several product categories under CRO but agreed to drop of the requirements based on industry requests as below:

BIS has formulated many standards, however, not all of them have been introduced/enforced compulsorily unless there is a cause that calls for their introduction. The cause could be linked to product failures or international obligations etc. Introduction of new standards of EMI and EMC requirements for products covered under CRO have no such background (at least not to the knowledge of the Industry).

It would be good if the same can be elucidated so that the Industry can understand the rationale for its need in the first place.

The growth of the Electronics Industry from a mere $8.3 Bn in 2014 to $70.7 Bn in 2022 has been on the back of light touch regulations. Ease of Doing business has been at the forefront of Policy making and implementation at all levels in the Ministry. In this context, when compliances are being reduced/rationalized, introducing fresh compliances would adversely affect Time to Market and costs. Both these factors would adversely affect the tempo of growth that is already under intense pressure from global factors beyond India's locus of control. At a time when India is going shoulder to shoulder with major economies, these new requirements will push the industry into a near impossible situation and also deprive Indian consumers from availing new products, new technologies and features and functionalities that are introduced in the developed world.

Industry recommends that MEITY as the policy owner for CRO, together with BIS and other stakeholders evolve a 10-year roadmap for regulations to be introduced. This roadmap will highly improve regulatory predictability and help the industry factor in costs and resources to support MEITY's intent. Without a roadmap, regulatory uncertainty will prevail and position India as a risky market while also impacting Ease of Doing Business. Such roadmaps also help set a clear vision for the country from a product compliance regulation point of view without introducing kneejerk reactions to short term import/export fluctuations.

For the recommendations detailed above, Annexure-B highlights the fall-out for different stakeholders if the identified challenges continue to remain areas of concern.

30. (Circular 1 of 2013 dated 29-05-2013 and duly regularized vide para 2(b) of amendment – I dated 25-06-2013 and para 2 of amendment – II dated 11-09-2013)

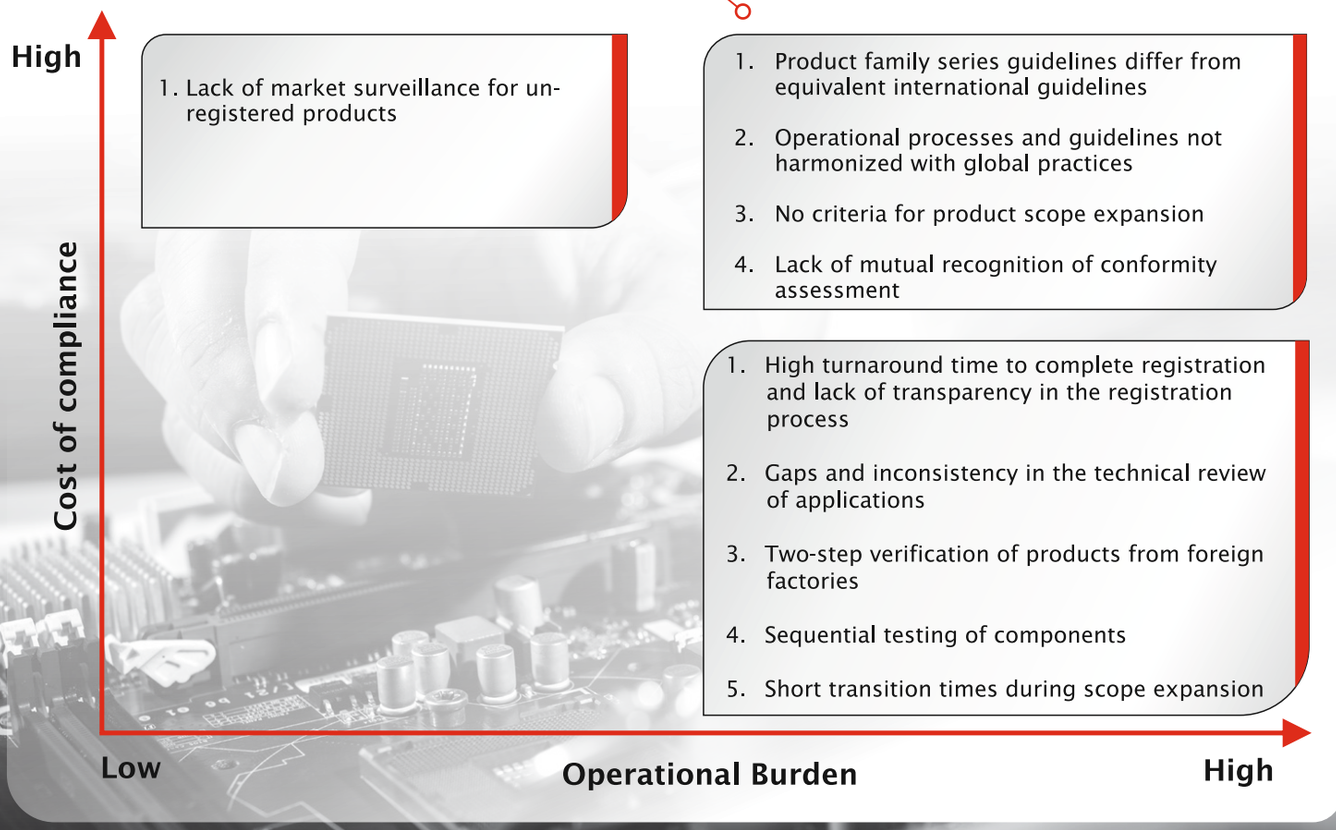
31 https://MeitY.gov.uk/guidance/pay-no-import-duties-or-vat-on-importing-goods-for-testing

CONCLUSION

The end-to-end certification process under CRO has drastically improved and stabilized, since the inception of CRO, about a decade ago. Some of the industry's top concerns identified through this study have been discussed in the previous chapter. To further streamline the certification process, and improve the ease of doing business, it is essential to undertake a comprehensive review of CRO keeping in mind the concerns highlighted. Periodic reviews have proven to be integral for ensuring the effectiveness of policy measures. This applies to CRO as well. Ever since CRO was implemented, most efforts by the government have focused on product scope expansion and automation of the operational processes. The underlying thought process of CRO hasn't been revisited.

Micro and macro-economic situations drastically change over a decade and the world is not the same anymore, particularly after the COVID-19 pandemic. IT penetration and adoption of technology are at unprecedented levels. For example, several key decisions have been made and policy measures implemented virtually in the last couple of years. This is a testimony to the trust mankind has in technology. It is imperative to highlight that during this period no product-related safety compromise has been observed or at least publicly reported. The IT hardware industry strives to function at the highest level of responsibility on product safety-related matters.

The chart below attempts to present the concerns faced by the industry from a different perspective to aid easy understanding. The concerns identified emerge from the current regulations and operational processes and is plotted against two scales, the extent of the operational burden created by the concern and the magnitude of the cost to comply with the regulation. One key aspect that must be highlighted here is that none of the concerns identified here impact product safety or are potential threats to the user. In fact, manufacturers only make administrative changes to demonstrate compliance. The design, construction and manufacturing of the product is not influenced by CRO. This is also not possible because the entire IT industry is truly global in nature, in the sense the same products are sold worldwide with no changes at all.



Continued interventions can go a long way in improving the overall effectiveness of CRO while substantially improving ease of doing business. This is presented at Annexure B where the fallouts of not implementing the recommendations of the study are discussed. For example, due to the lack of harmonization of family series guidelines with the IECEE guidelines, brands are constrained to limit the number of models available and therefore consumers are forced to settle in for a lower configuration or pay more for a higher configuration leading to sub-optimal utilization. Timely intervention by the government can iron out the challenges and support the nation where all stakeholders win and at the end ensure access to a wide range of technology options that are safe for the users.

At a time when the country is set to grow become a US$ 5 Trillion economy, it is even more important that the regulatory regimes catalyze it. However, as demonstrated in the previous chapters, the cost of compliance and the loss of opportunities due to regulatory burdens is slowing the pace of modernization of the digital infrastructure in the country. The prevailing product compliance policies impede the ease of doing business in the country, retard the adoption of technology as well as create barriers for indigenous companies to compete in the global market. Policies that are backed by strong research and solve problems which are the need of the hour for India to be at par with the leading economies of the world.

ANNEXURE A

Differences in family series guidelines between CRO and IECEE

CRO - family series guidelines	IECEE - family series guidelines
Automatic Data Processing Machines[36] Basic configuration with power adaptor Grouping as one series provided product has: ◆ Power Adaptor (Alternate models of power adaptor may be evaluated as part of the main product) ◆ Same enclosure except for differences of decoration parts ◆ Same PCB layout	Servers & storage (configurable) ◆ Power supplies with the same output connector interface ◆ Power supplies configured for main use and redundancy with different output connectors used in the same end product ◆ Same enclosure. Allows for different combinations of sub-assemblies (disk drives, DVD drives etc.)
Automatic Data Processing Machines Basic Configuration - Mains operated with internal power supply Grouping as one series provided product has: ◆ Same Mains layout or same SMPS board layout ◆ Same enclosure except for differences of decoration parts ◆ Power Transformer: Same design and insulation system	
Power Supply/Power Adaptor Grouping as one series provided product has: ◆ Same rated input voltage ◆ Same class of construction ◆ Same mains PCB design layout and transformer	Power supplies / power adapters (for standalone testing and certification) ◆ Permits different output ratings, number of outputs, component ratings ◆ Same enclosure, same MAINS layout ◆ Same style and insulation system of transformer
Manufacturers must test each combination of server/ power supply option and apply for separate CRO registrations	Manufacturers can test the worse-case server/ power supply configuration to cover all the server/power options, and receive one IECEE Certification

36. https://MeitY.meity.gov.in/writereaddata/files/Guidelines%20for%20Series%20Formation%20(2).pdf

ANNEXURE B

Key recommendations and fall-out if challenges are not addressed

Key Recommendations	Fall-out
Revision of India family series guidelines to harmonize it completely with IECEE guidelines	◆ Brands operating in both Indian, as well as international markets, have to continue India-specific models/series ◆ Consumers settle for a lower configuration or pay more for a higher configuration leading to sub-optimal utilization
Allowing parallel testing of components	◆ Increases 'time to market' for product where sequential testing of components causes delay ◆ Impacts product launch schedule in the Indian market, resulting in lag compared to launch in other markets
Product expansion to be based on safety risk-based approach and removal of certain low-risk SELV products	◆ Inclusion of Safety Extra Low Voltage (SELV) products and components, increasing burden of compliance on the manufacturer ◆ Negative impact on the ease of doing business
Defined market surveillance framework (including surveillance of unregistered products, incentives for compliant brands and a process reliant more on visual inspection)	◆ Availability of un-registered products in the market, increasing risk to consumer safety ◆ Disproportionate advantage to the manufacturers of unregistered products over the registered ones
Recognition of Conformity Assessment conducted in overseas laboratories for equivalent standards	◆ Delayed market entry and hence availability of lesser options to Indian consumers compared to other countries ◆ Additional cost of re-testing in India, increasing trade barriers and hindering ease of doing business

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