



TCR ENGINEERING SERVICES PVT. LTD. | CORPORATE PRESENTATION 2026

Quality is not a promise. It is a measurement.

India builds. TCR measures. Independent materials testing, inspection and asset integrity since 1973.

Transparency. **C**ompetence. **R**eliability.

October 2026

NABL NABLT0726MH18640 · ISO/IEC 17025:2017 · NADCAP AC7101

One accountable report for consequential engineering decisions

THE ANSWER

The independent laboratory group that lets engineers decide on evidence.

01

Integrated. Laboratory, field NDT, asset integrity and failure investigation: one contact, one signature.

02

Verifiable. Five accredited laboratory sites, three operating companies, every certificate online.

03

Accountable. Fifty-three years, family-held, named leadership: experienced people sign every conclusion.

A zero-defect baseline for India, and the laboratory behind the claim

INDIA 2026

“ *Our zero-defect precision manufacturing should become our hallmark ... our mantra should be quality, quality, quality. This will become our global brand value.*”

Prime Minister Narendra Modi
Address to the nation, Red Fort, 15 August 2026



Photograph: Press Information Bureau, Government of India.

Why the report can be independently verified before you read a result

VERIFICATION



4

NABL ISO/IEC
17025:2017 certificates

2

NADCAP AC7101
certificates, Mahape
and Vadodara

1

IAS accreditation,
TCR Arabia,
Dammam

5

accredited laboratory
sites in all

Specimen inspection at Mahape. Every certificate can be checked online at NABL, IAS and eAuditNet.

01

Who we are

Fifty-three years, three operating companies, one standard of evidence.



V.K. Bafna founded TCR in 1973. The purpose has not changed.



The founder (1940 to 2013), metallurgist and Chairman Emeritus.

Three operating companies, five accredited laboratory sites, seven certificates

THE GROUP



TCR Engineering Services Pvt. Ltd.

Family-held since 1973

Mahape and Bhubaneswar

NABL, NADCAP AC7101



TCR Advanced Engineering

Group company

Vadodara: laboratory, NDT facility

NABL, NADCAP AC7101



TCR Arabia Company Limited

Joint venture, 60/40

Dammam laboratory; Jubail, Yanbu

IAS ISO/IEC 17025:2017

The sites: Mahape, Bhubaneswar, the two Vadodara sites and Dammam. Certificate numbers are on the inventory, slide 36.

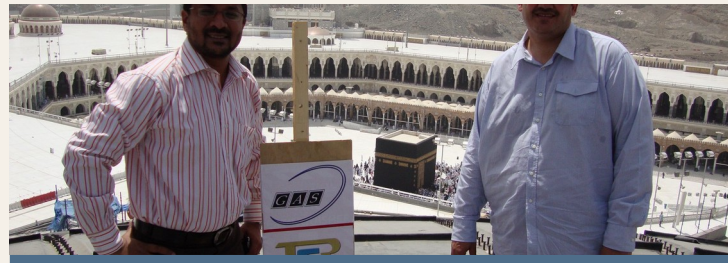
Local presence, one signature, wherever the report is read

REACH

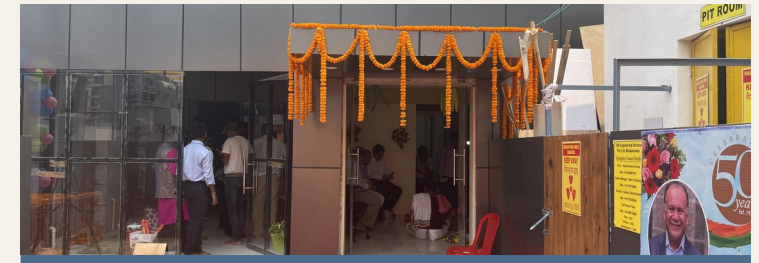
Seven operating countries; NABL accreditation recognised through ILAC in 90+ economies.



TCR Arabia team, Dammam, in the Kingdom since 2007.



On site: Safa Marwa expansion project, Mecca.



Bhubaneswar: NABL branch laboratory, eastern India.

India, Saudi Arabia, Oman, Kuwait, Qatar, Japan and Malaysia. NABL is an ILAC MRA signatory. Samples from 15+ countries; 24-hour deployment, 100 to 200 personnel at peak.

02

The decisions our clients take

Seven decisions, from run-or-replace to releasing the shipment.



Run or replace? Life assessment for the plants that cannot stop

ASSET INTEGRITY

750+

RLA studies, all asset classes

350+

FFS engagements, API 579

100,000+

in-situ replicas on record



In-situ replica, taken in place on the plant



Hardness survey, Mahape: a check on the replica

For the owner's call: extend life, re-rate, repair or retire.

Will this steel survive sour service? Will it survive hydrogen?

MATERIALS

THE HERITAGE

NACE TM0177, methods A to D

HIC to TM0284; PDO and OQGN approved;
Shell projects.

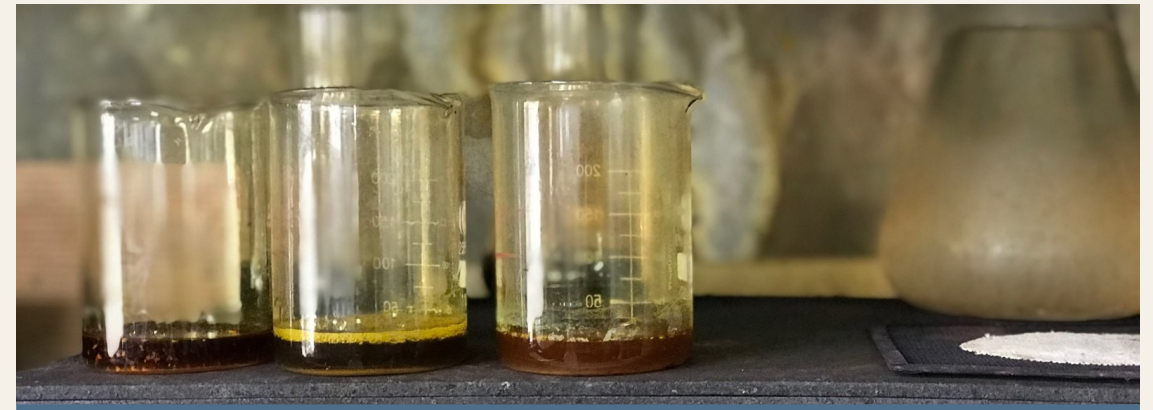


Proof ring, Mahape: Method A under load

THE NEW FRONTIER, 2026

HID to ASTM G146

ISO 11114-4 cylinders; ASTM F519 and API
20E screening.



Immersion test: coupons in solution

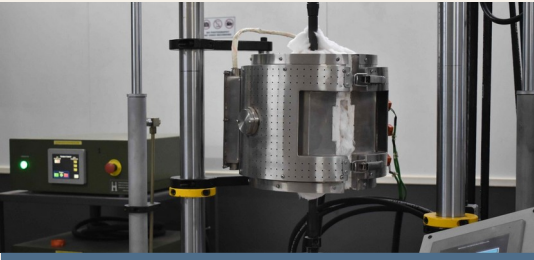
Two decisions, one laboratory: decades of sour-service rigour are why owners bring TCR the hydrogen question.

Materials to the limit: minus 196 to 1,100 degrees Celsius

AEROSPACE AND POWER

-65 °C

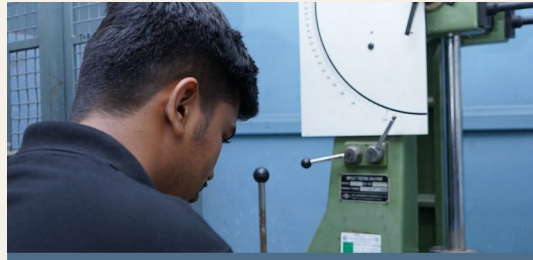
fracture toughness: K_{Ic}, J_{Ic}, CTOD



Creep frame: stress rupture at temperature

6

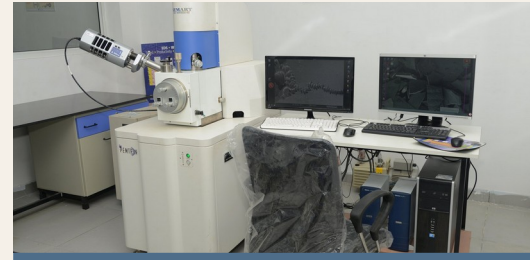
creep frames, to 100,000 hours



Charpy impact, cryogenic

4

scanning electron microscopes in the group



SEM with EDS: reading a fracture surface



Universal testing machine: tensile to standard

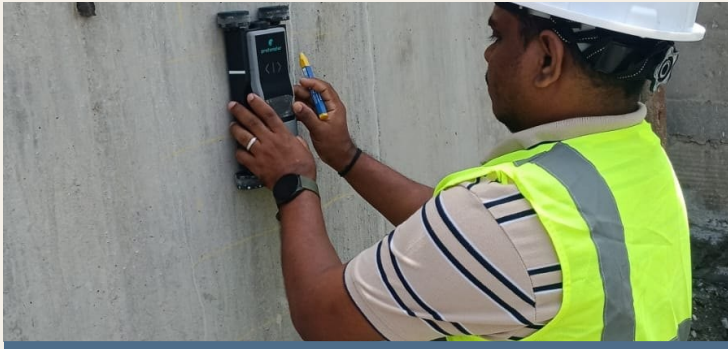
For the buyer's call: accept the batch, the forging or the weld, or send it back. The first Indian group with two NADCAP AC7101 laboratories: Mahape, PRI 29415245997, and Vadodara, PRI 29227245998.

Is the bridge, the building, the stadium safe to keep using?

INFRASTRUCTURE

500+

bridges inspected across India



Cover-meter survey locating the rebar

1,200+

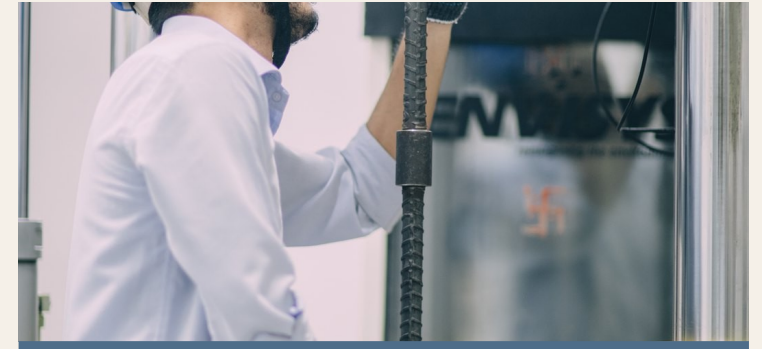
structural audits backed by TCR tests



Concrete cube compression test

2

municipal registrations: BMC, CIDCO



TMT rebar tensile test before casting

Repair, restrict or retire. Registered structural engineers sign the audit; TCR provides the laboratory evidence.

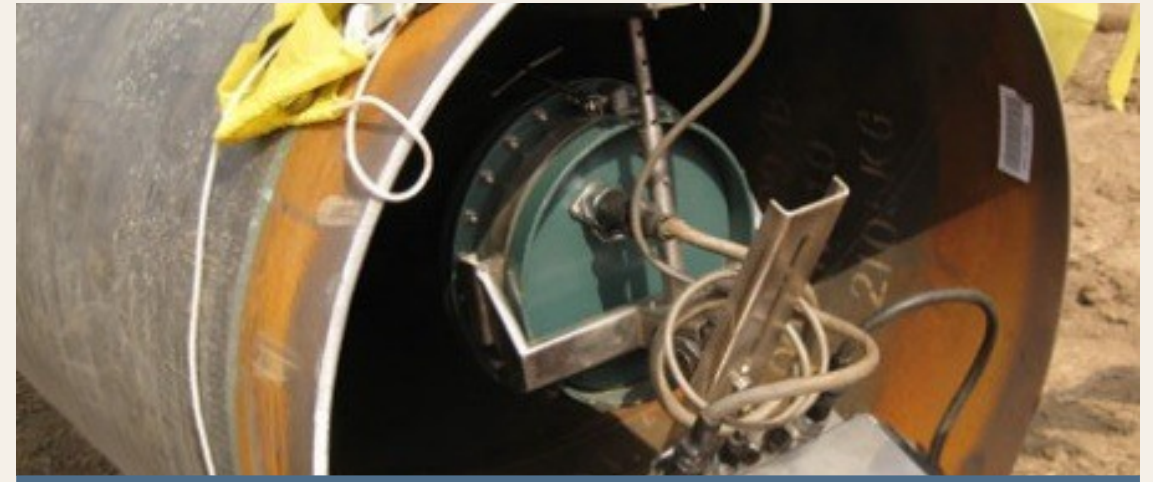
Robots that do the climbing: faster inspection, and no scaffold to build

ROBOTICS

ARTiS has scanned 50,000+ reformer tubes without scaffolding.



ARTiS inside the furnace box



Radiography from inside the pipe

Inside the turnaround: about 100 tubes in two days, against four to five manually.

When equipment fails, evidence establishes the cause and the fix

FAILURE ANALYSIS

9,000+

documented failure investigations



Sectioned component, kept as evidence

1,500+

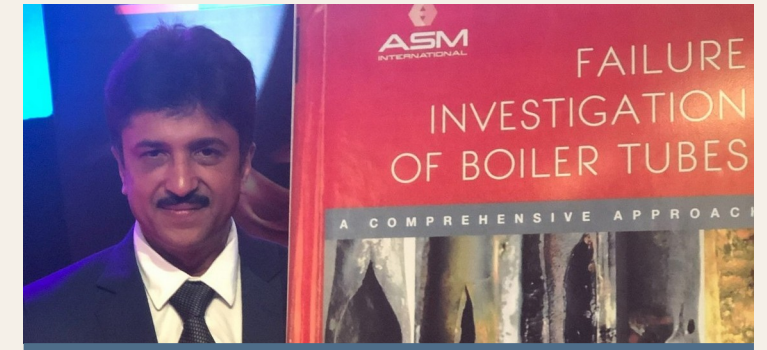
boiler tube failures in the knowledge base



Metallography names the cause

140+

countries reached by the two ASM titles



Failure Investigation of Boiler Tubes, ASM 2018

Root cause, recurrence prevention, and a record an insurer or tribunal can examine. ASM book co-authored at TCR Advanced.

The buyer's eyes and ears in India: release the shipment on what was measured

INSPECTION

6

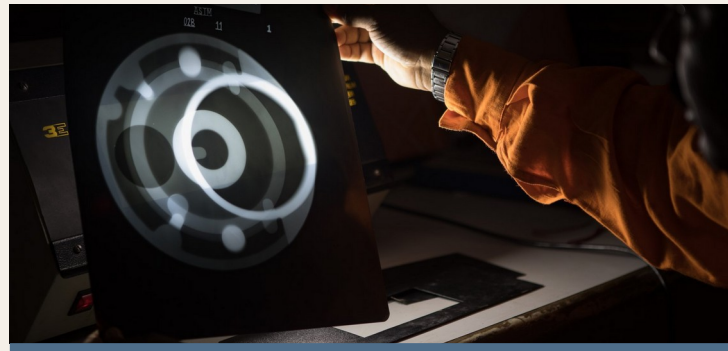
in-house ASNT NDT Level III
authorities



Handheld XRF positive
material identification

14,000+

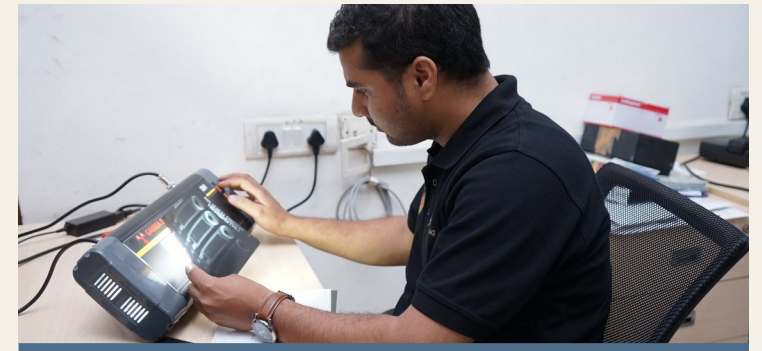
girth welds radiographed,
2,600+ km of line



Radiograph of a casting under
review

700+

PMI campaigns across the
GCC



Ultrasonic flaw detection

For the buyer's call: accept or reject the weld, the lot, the consignment. ICCL/BSE approved assayer since 2018.

03

Sixteen industries

One page per sector: the problem, the tests, the clients and the credentials.



Sixteen industries, one standard: find your sector and its page

Energy	Process and metals	Mobility	Built world and assurance
Refining and petrochemicals, 19	Fertilisers, 23	Aerospace, 27	Infrastructure, 31
Oil and gas upstream, 20	Chemicals, 24	Railways, 28	Construction and built environment, 32
Power generation, 21	Steel and metals, 25	Automotive, 29	Insurance referee surveying, 33
Pipelines and city gas, 22	Metal trading and recycling, 26	Marine and offshore, 30	Industrial research, 34

Across all sixteen: hydrogen, ammonia, CCUS, sustainable aviation fuel, EV and battery storage, captive renewables.

A reactor ran hot after an upset. Can it keep running, and for how long?

At stake	Run, re-rate or replace hot equipment after an excursion or a fire
Proof	HMEL Bathinda, reactor 503-R-001: 710 °C peak, 44 minutes above 700 °C; found fit for service, ran to 2019 with no shutdown
We measure	Fitness-for-service and fire damage to API 579-1, in-situ replicas, sour-service qualification, PMI, advanced NDT
Relied on by	Reliance Industries, Indian Oil, BPCL, HPCL; HMEL (TCR Advanced rate contract, 2025 to 2028)
Credentials	KNPC-approved contractor (2013); EIL evaluation of the Bhubaneswar laboratory (2023)



In-situ metallography with a portable microscope

Reliance Jamnagar: 1,200 replicas read in a single 15-day turnaround.

Prove the steel against hydrogen sulphide before it goes downhole

At stake	Select wellhead, tubular and flowline materials for sour service
Proof	CTOD on specimens pre-charged with H2S, developed for Larsen and Toubro: 96 hours in NACE Solution A, loaded within 20 minutes
We measure	SSC to NACE TM0177, HIC to TM0284, four-point bend to TM0316, CTOD, ECA, first article qualification
Relied on by	ONGC, PDO, OQGN, Shell, Cameron (since 2012); Saudi Aramco Jafurah (ECA of 42-inch girth welds)
Credentials	ONGC QAD Sr. No. 01 since 1998; PDO approved vendor (2022); TCR Arabia on Saudi Aramco's in-Kingdom list



Sulphide stress cracking proof rings in sour test cells

Jindal SAW for OQGN line pipe: HIC and SSC qualification, from July 2025.

The outage window is fixed. Assess the boiler inside it.

At stake	Run the boiler on, re-rate it or replace parts, within the outage
Proof	Mundra, 4,620 MW: RLA of boilers and piping under IBR Regulation 391A at 20 days per unit, March 2025
We measure	Boiler and piping RLA, tube failure analysis, in-situ replicas, creep rupture to 1,100 °C, Omega method
Relied on by	NTPC, Adani Power (Mundra, Tiroda), JSW Energy, Torrent Power, BHEL (testing panel since 2003)
Credentials	Central Boiler Board Well-Known RLA Organisation, to 2 April 2029; IBR Well-Known laboratory since 2014



Paresh Haribhakti on the podium at Boiler India 2020

Tata Power Jojobera, 67.5 MW: a knowledge-based audit supported a twelve-year life extension.

A pipeline is proved one girth weld at a time, before it goes live

At stake	Accept or cut out each weld; keep the licence to operate the line
Proof	More than 14,000 girth welds radiographed across 2,600 km of mainline; 9,266 joints digitally scanned on one project
We measure	Mainline and CGD radiography, HIC and SSC on line pipe, CTOD, ECA to API 1104 Annex A
Relied on by	Indian Oil, GAIL, HPCL, Larsen and Toubro, OQ Gas Networks; Saudi Aramco (internal RT crawler, 16 to 52 inch)
Credentials	IOCL Pipelines recommended vendor, X-ray mainline work to 30 inch (2021); MECON-approved NDT agency (2021)



Weld radiographs coming out of the processing tank

Nepal, 2023: an Iridium-192 source taken across the border under Government of Nepal permission.

Retire each reformer tube on its own measured life, not the fleet average

At stake	Which reformer tubes to replace in this turnaround, and which can run on
Proof	Paradeep Phosphates, three 10,000 MT ammonia tanks: in-service RBI supported moving the second internal inspection from 20 to 25 years
We measure	ARTiS reformer scans with Level 3 FFS, ammonia storage RBI, in-situ replicas, converter and urea-loop NDT
Relied on by	QAFCO (15-year rate contract since 2011), IFFCO, RCF, Chambal Fertilisers (AiOM, 51 items), Dangote Fertiliser
Credentials	PDIL empanelment for metallography on reformers, to 3 November 2026; Casale SA qualified TCR Advanced (2025)



Robotic crawler being clamped onto a tube, TCR field team

Each tube gets a retirement date at the 0.8 life fraction, from the creep damage read on that tube.

A bulged reactor or a thinned column: run, repair or retire?

At stake	Keep a degraded vessel in service, repair it or replace it
Proof	Gujarat Fluorochemicals, Ranjitnagar: life assessment of 124 equipment items from drawings and process data, June 2025
We measure	Fitness-for-service to API 579-1, FEA, intergranular and pitting tests (ASTM A262, G48), PMI on exotic alloys
Relied on by	Aarti Industries, SRF, Atul, UPL, Tata Chemicals, GACL, BASF
Credentials	FFS bench at TCR Advanced; SABIC Approved Contractor List, TCR Arabia (2019); Casale SA vendor code, TCR Advanced (2025)



Alloy identification, the result read on screen

Sulzer Chemtech, Bahrain, January 2026: finite element analysis of the bulged areas of two reactors.

Reline the blast furnace on condition data, not on the calendar

At stake	When to reline, and which hot equipment can run another campaign
Proof	Emirates Steel, Abu Dhabi: ARTiS inspection of direct-reduction reformer tubes on DRP1 and DRP2, 2025
We measure	Wet chemistry and mechanical certification, in-situ metallography, roll and furnace failure analysis, PWHT
Relied on by	JSW Steel, SAIL, ArcelorMittal Nippon Steel India, RINL, Jindal Steel and Power
Credentials	Tata Steel R&D approval of the laboratory (2021); Mukand approval for stainless rebar testing (2021)



Wet-chemistry analysis at the laboratory bench

Tata Projects: PWHT on JSOL coke oven batteries 5 and 6, 2023 to 2025.

When two assay certificates disagree, an umpire result gives both sides a basis to settle

At stake	Settle a consignment when the buyer's and the seller's certificates diverge
Proof	Umpire laboratory: retained splits retested under agreed protocols, for the 2,500-plus member traders at BME House
We measure	Fire assay weighed to 0.0001 g, OES and ICP spectrometry, classical wet chemistry, LECO carbon and sulphur, sampling
Relied on by	ICCL/BSE (approved assayer, 2018), NSE Clearing (independent base-metal assayer, 2021), Bharat Metal Exchange
Credentials	Assays reported under NABL NABLT0726MH18640; certified reference materials from ARMI and MBH



Opening of the exchange's sample collection centre

Copper, aluminium, nickel, zinc and ferro-alloys are analysed to ASTM and IS methods.

Verify flight alloys in India instead of shipping coupons

At stake	Pass a qualification gate without losing weeks to an overseas laboratory
Proof	Chandrayaan-3 rocket-motor casing hardware, tested through Larsen and Toubro Defence for VSSC-ISRO: no non-conformity
We measure	Heat treatment verification, tensile and hardness, metallography, fatigue, fracture toughness, SCC
Relied on by	ISRO, HAL (five-year record, AURDC Nasik), DRDO NMRL (long-term contract), MIDHANI, Bharat Forge
Credentials	NADCAP AC7101 at Mahape and Vadodara, the first Indian group with two; fatigue, SCC and creep under NABL



Tensile specimen set in the 50 kN universal testing machine

Prime specifications are tested on request; no aerospace prime approval is claimed.

Certify track and viaduct materials before traffic runs

At stake	Release rail welds, strand and couplers inside a short possession window
Proof	Mumbai-Ahmedabad High Speed Rail: scope approved October 2023; all three civil packages since March 2024
We measure	Rail weld fatigue to 5 million cycles, rail steel crack growth (EN 13674), HT strand, couplers, concrete, soil
Relied on by	NHSRCL, RITES, MMRCL, Larsen and Toubro, Afcons, MEIL-HCC; Jindal Steel and Power (rail)
Credentials	RITES Western Region approved laboratory (2020); BIS recognition for IS 16172 rebar couplers



Rail section set up for fatigue testing

Haramain line, Saudi Arabia: ultrasonic and NDT services by TCR Arabia, the joint venture.

Find the fatigue weakness before the warranty claim does

At stake	Meet the PPAP date with test data that holds up in the field
Proof	Royal Enfield: motorcycle frames qualified on the low-cycle fatigue bench to ASTM E606, 2025 to 2026
We measure	Fatigue to ASTM E466 and E606, fasteners and hydrogen embrittlement, salt spray, EV battery mica barriers
Relied on by	Tata Motors, Mahindra and Mahindra, Bharat Forge, Bosch India; Ola Electric, Ather Energy, TVS Motor (EV mica)
Credentials	NABL ISO/IEC 17025 for PPAP, batch conformance and requalification; ASTM F1624 planned for 2026-27, not current



Specimen loaded in the grips of a servo-hydraulic test frame

RoHS compliance testing to the IEC 62321 series supports export programmes.

Argue a platform past design life with measured data

At stake	Keep a vessel or platform working past its original life, or retire it
Proof	ONGC offshore export trunkline: NDT, source inspection and structural integrity since 1998
We measure	Underwater ROV inspection, hull and weld NDT, 9 per cent nickel and plate qualification, NORSOK M-710 seals
Relied on by	ONGC, Mazagon Dock Shipbuilders, Cochin Shipyard, Adani Ports, Petronet LNG (Dahej)
Credentials	Indian Navy CQAE empanelment; ONGC QAD Sr. No. 01; Planys ROV alliance



Ultrasonic thickness gauging on coated steel plate

Sub-zero CTOD to minus 65 °C, the limit of two cold chambers; LNG service at about minus 162 °C is outside it.

Know a structure's condition before you buy, repair or close it

At stake	Repair, strengthen, restrict or close: the owner's call on a bridge or a structure
Proof	BMC robotic underwater inspection programme: more than 400 bridges, from March 2026
We measure	Bridge NDT, robotic sub-water inspection, GPR and UPV mapping, HT strand fatigue, pavement evaluation
Relied on by	BMC, Maharashtra PWD (robotic NDT), MMRDA, Mumbai Coastal Road (AECOM review, 2021); Statue of Unity with L&T
Credentials	BMC Roads registration to 24 March 2028; RITES approved laboratory; CIDCO registration



UPV survey on a concrete column, TCR field team

Investors buying twenty-year concessions ask for documented condition, not the builder's assurance.

Hand over on measured quality, not visual acceptance

At stake	Repair or rebuild an ageing building; release a new one against test results
Proof	Godrej Properties: three-year rate contract for materials testing across its Mumbai Zone, from April 2026
We measure	Concrete, cement and aggregates, TMT rebar, AAC blocks, waterproofing, NDT for structural audits
Relied on by	Kalpataru, Shapoorji Pallonji, Rustomjee, Lodha, Oberoi
Credentials	BIS recognition for the full IS 16172:2023 coupler scope, 8 to 40 mm; registered with BMC and CIDCO



Bend test on a bar specimen in the mechanical laboratory

Section 353B, Mumbai: at 30 years, the owner files a stability certificate within a year, then every ten years.

Establish the technical cause of a loss before positions harden

At stake	Know what caused the loss: design, material, operation or maintenance
Proof	More than 9,000 documented failure investigations; fractography on four scanning electron microscopes at TCR Advanced
We measure	Root cause failure analysis, SEM and EDS fractography, fire damage to API 579-1 Part 11, FFS, expert reports
Relied on by	Insurers, reinsurers, brokers and licensed surveyors, including New India Assurance, ICICI Lombard, Tata AIG, GIC Re
Credentials	IBR Well-Known RLA Organisation for boiler claims; Approved Group International alliance, Southeast Asia



Metallographer examining a microstructure, TCR laboratory

On each claim: no equity in the asset, no contract with its manufacturer or EPC, no operational interest in the outcome.

When no standard method exists, build the rig and prove it

At stake	Get defensible data where no published standard applies
Proof	Corrosion-autoclave methodology built for the Institute for Plasma Research, cross-checked against ITER at Cadarache
We measure	Contract R&D, custom autoclaves and rigs, creep to 100,000 hours, electrochemical and fractographic studies
Relied on by	ITER-India (IPR), NPCIL (elevated-temperature tensile, qualified 2013), DRDO NMRL, BARC
Credentials	NMRL-DRDO approved vendor (2016); PhD research institute of MS University of Baroda (TCR Advanced, since 2012)



Creep frame with three-zone furnace and controller

Research runs under the accredited quality system of NABLT0726MH18640; no separate research scope is accredited.

04

Certified and verifiable

Every claim you have just heard is traceable, and every certificate is a URL away.



Accreditation, qualification and mutual recognition: the inventory

Credential	Holder and site	Scope	Valid to
NABL NABLT0726MH18640	TCR Engineering, Mahape	1,483 scope items	2 Mar 2030
NABL TC-6739	TCR Advanced, Vadodara	Laboratory, 431 items	13 Oct 2029
NABL TC-15993	TCR Engineering, Bhubaneswar	Branch, 409 items	29 Apr 2029
NABL TC-13053	TCR Advanced, Vadodara (NDT)	NDT facility	2 Feb 2030
NADCAP PRI 29415245997	TCR Engineering, Mahape	AC7101 Materials Testing	31 May 2027
NADCAP PRI 29227245998	TCR Advanced, Vadodara	AC7101, same scope	31 May 2027
IAS TL-783	TCR Arabia, Dammam	Laboratory, 24 methods	1 Apr 2027

NABL and IAS to ISO/IEC 17025:2017. Current certificates and scopes at tcreng.com/quality.

Licences, recognitions and registrations: the inventory

Class	Credential	Holder	Valid to
Statutory licence	AERB radiography operating licence 23-IRLOP-893925	TCR Engineering	In force
Statutory recognition	IBR Well-Known Material Testing Laboratory, CBB Form XVI-H certificate 38	TCR Engineering	2 Apr 2029
Standards-body recognition	BIS laboratory recognition, LRMD/LRS/OSL-7103506 (IS 16172 rebar couplers)	TCR Engineering	31 Dec 2026
Authority and owner registrations	BMC Roads Department; CIDCO eMTL; PDIL empanelment	TCR Engineering	BMC 24 Mar 2028
Management system	ISO 45001:2018, QRO certificate 3050260220154HS	TCR Engineering	19 Feb 2029

Credentials as at October 2026. Client approvals: 57 unique active or historical credentials from 16 countries of issuance, four tiers: Statutory, Owner, EPC, OEM.

The certificates behind the inventory, as issued and verifiable online

GALLERY



TCR Engineering, Mahape ·
NABLT0726MH18640
Valid to 2 March 2030



Verify NABL



TCR Engineering, Mahape ·
NADCAP PRI 29415245997
Valid to 31 May 2027



Verify NADCAP



TCR Advanced, Vadodara ·
NADCAP PRI 29227245998
Valid to 31 May 2027

Scan to check at source: the NABL certificate on the QCI portal, NADCAP on eAuditNet. TC-6739, TC-13053, TC-15993, IAS TL-783 and the IBR certificate are at tceng.com/downloads.

Selected customer and authority approvals, each on the issuer's letterhead

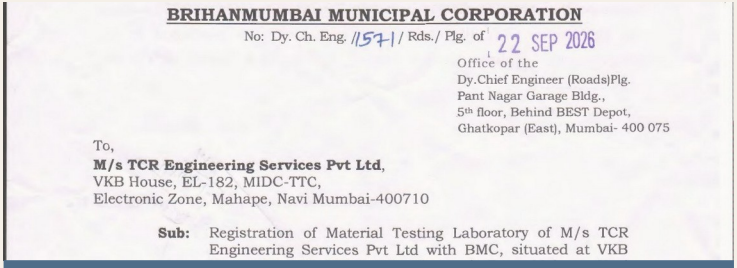
APPROVALS



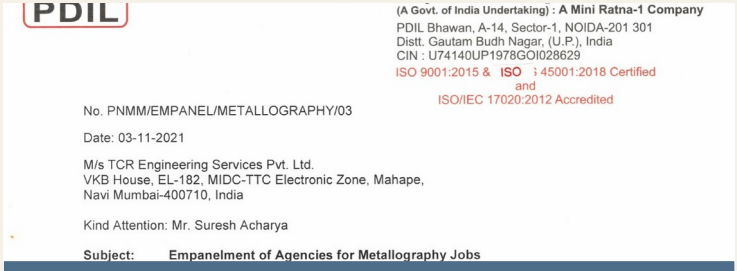
ONGC: approved test house since 1998



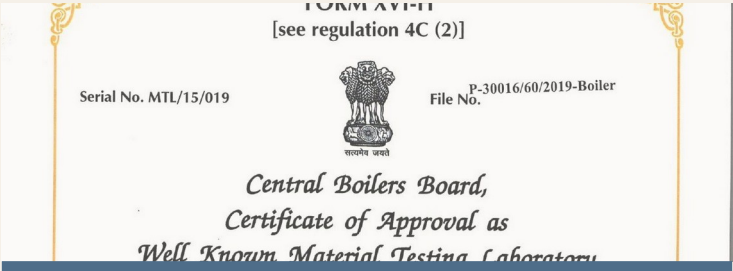
Saudi Aramco: in-Kingdom laboratory



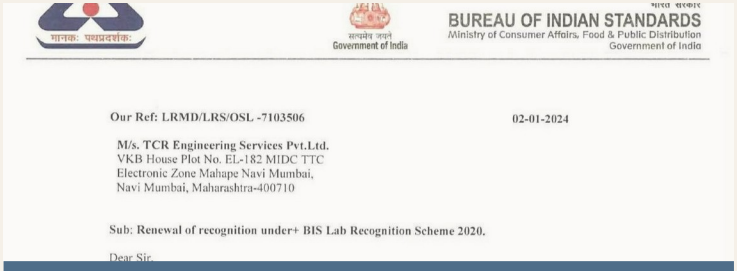
BMC: laboratory registration to 2028



PDIL: reformer metallography, to Nov 2026



IBR: Well-Known laboratory to 2029



BIS: IS 16172 rebar coupler testing

Holder: TCR Engineering, except Saudi Aramco (TCR Arabia). Documents as published at tceng.com/downloads.

05

The people who sign

Certificates do not sign reports.
People do.



One parent company, two group companies, a named owner for each core function

STRUCTURE

TCR Engineering Services Pvt. Ltd.

Neelam Bafna, Chairperson and MD · Rohit Bafna, President · Viren Khandwala, Director

Technical Avinash Tambewagh, Technical Head; the testing departments

Quality Dr. Ajay Essampally, Head of QA; the quality system

Operations Lalit Surve, GM, operations and finance

Bhubaneswar Samir Choudhury, GM, TCR Eastern branch

TCR Advanced Engineering

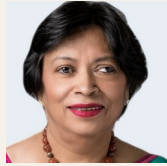
Vadodara. Paresh Haribhakti, MD;
Evolve by TCR

TCR Arabia

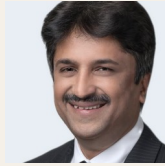
Dammam. Joint venture: 60 per cent
TCR, 40 per cent GAS Arabian Services

Who governs the group, and who leads the technical and operating work

LEADERSHIP



Neelam Bafna
Chairperson and
MD



Paresh Haribhakti
MD, TCR
Advanced



Rohit Bafna
President



Viren Khandwala
Director



Avinash Tambewagh
Technical
Head



Dr. Ajay Essampally
Quality
Assurance



Lalit Surve
Operations and
Finance



Samir Choudhury
TCR Eastern
branch



Parul Hariya
Civil Testing



Shaila Kadam
Chemical
Analysis

Heads of department, and the chain that releases every report

DEPARTMENT HEADS



Shailendra Singh

NDT and TPI



Manoj Singh

Corrosion Testing



Shemi Bhaskaran

Radiography NDT



Abhay Dhuri

NDT Operations



Ashwant Singh

Projects



Atul Yadav

Human Resources

Originated by the department head, reviewed by the Technical Head, approved by the Head of QA.

Behind every signature: a bench of people and a system that can show its working

THE BENCH

750+

people across the group

7

RSOs, BARC Level II

12

in-situ replica field teams

300+

calibrated instruments



Wet-chemistry team



Laboratory floor



Specimen machine shop

All three at Mahape, Navi Mumbai.

Building technical competence over years, and keeping it in the company

CULTURE

A plan for everyone. From probation, with sponsored certification ladders.

Six ASNT NDT Level III. In-house NDT authorities across the group.

Questions in the open. First names in every direction; a monthly town hall.



Town hall with the team, founder's portrait behind.

06

Where we are going

Extending capability in hydrogen, ammonia and robotics.



Make in India, Test in India: the coupon stays on the bench at home

TURNAROUND

“ Every coupon that stays in India gives a fortnight back to a production schedule.”

Dr. Ajay Essampally
Head of Quality Assurance

Weeks

overseas cycle: two to four, indicative

Days

to a result at Mahape

Machined tensile coupons waiting for test.



What runs today, what is in qualification, and what is on the 2026-27 roadmap

OUTLOOK

RUNNING

Hydrogen and the cold chamber

HID to ASTM G146 at Mahape since April 2026; fracture toughness to minus 65 °C in two cold chambers.

QUALIFYING

WD-XRF on building materials

Rigaku Supermini200, commissioned September 2026, in validation for the NABL scope.

ROADMAP

Ammonia tanks and F1624

Robotic inspection of refrigerated ammonia tanks at TCR Advanced; ASTM F1624 planned for 2026-27.

Accreditation is claimed only with the certificate in hand.



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