INHUS

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Sustainability Report 2022



CONTENTS

01 | Strategic context

- Importance of sustainability
- INHUS sustainability framework
- INHUS sustainability targets and focus areas
- Alignment with the UN’s Sustainable Development Goals (SDGs)

02 | Actions and metrics

- Sustainability action breakdown
- Sustainability metric breakdown

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Construction as the catalyst for a sustainable future

Construction sector is responsible for a significant part of our physical environment - the buildings we live in, the roads we drive and the infrastructure we use for our daily convenience. Consequently, it shapes the future development of cities, communities, and societies. The projects developed today become either a burden or a benefit for the future generations seeking greener and more sustainable solutions.

As one of the leading construction companies in the Baltic region, INHUS makes focused commitments to stimulate the transition towards a more sustainable society throughout the value chain. This means adhering to the globally accepted standards as well as continuously seeking new ways to achieve a net positive impact. We pride ourselves as an inventive company, continuously pushing the boundaries to deliver higher quality and performance solutions. This strategy is a structured approach to use INHUS culture of innovation to achieve focused, measured and impactful results towards a more sustainable company and a more sustainable future.

STRATEGIC CONTEXT

INHUS SUSTAINABILITY FRAMEWORK

Taking into account the importance of the challenge at hand, we have conducted a thorough analysis of our operations and set ambitious targets that define our long-term commitment to the global society. To do so, we took a holistic approach, considering all dimensions of sustainability (environmental, social, economical) and involving an extended scope of stakeholders (employees, partners, clients, shareholders, society at large) across the whole value chain.

STAGE	ACTION
01 | Defining focus points	global framework analysis, stakeholder interest assessment
02 | Value chain analysis	evaluating impact across the building lifecycle stages
03 | Metric & method selection	collecting relevant metrics, selecting measuring methods and tools
04 | Defining actions	evaluating and structuring required changes and actions
05 | Setting targets	setting targets, defining a roadmap

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SUSTAINABILITY TARGETS

The central goal of INHUS sustainability targets is to achieve net zero CO2 emissions from its operations and the value chain by 2050. An intermediary goal to reduce emissions by 50% has been set for 2030. These targets are aligned with the UN Climate Change initiative Climate Neutral Now that has set the global deadline for climate neutral operations for 2050.

The main actions to achieve these targets are described under the 1st INHUS sustainability focus area "CO2 reduction throughout the building lifecycle". They include climate smart solutions to reduce CO2 emissions throughout the building lifecycle and commitments by subcontractors.

Nonetheless, recognising that sustainability does not end with climate neutrality, INHUS has defined two additional focus areas: "Sustainable operations and reduced construction impact" and "Fostering INHUS culture of growth and innovation". They define INHUS obligation to reduce the overall impact construction might have on the wellbeing of people and to foster a modern and creative workplace that encourages discoveries to solve the most important challenges of our industry and our society.

FINAL TARGET

Climate neutral company by 2050

SUSTAINABILITY FOCUS AREAS

The sustainable practice planning process allowed us to identify the most pressing societal and environmental needs which we can impact. We then formulated a unique approach to address them, combining clear business commitments with engaging cultural initiatives that establish sustainability as part of the organisational INHUS DNA. Achieving long-term sustainability requires an organisation that is sustainable in its business as well as its beliefs.







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CO2 reduction throughout the building lifecycle

By analysing the whole building lifecycle we were able to determine the impact of our operations in different stages and set focused and measurable actions to reduce CO2 emissions and - where relevant - the overall impact of construction operations.

LIFECYCLE STAGE				
Resource supply	Engineering	Manufacturing	Logistics	Construction
Choosing certified material suppliers to assure transparency and environmental quality.	Exploring ways to increase the longevity and performance of INHUS buildings at the starting stage.	Product innovation - experimenting and researching ways to optimise production and exploring alternative materials to reduce CO2 emissions.	Reducing CO2 emissions during product and resource transportation.	Reducing the construction site impact on the surrounding environment (environmental and social).

Sustainable operations and reduced construction impact

Prefabrication is a more integrated, more efficient and less disruptive construction option. We seek to make a positive impact on sustainability by leveraging the benefits of prefabrication and making holistic commitments through the entire value chain.

Lower intensity	Less pollution	Less waste
Building assembly takes significantly less time, minimising the direct impact constructions have on the wellbeing of local communities and construction workers.	Prefabricating building parts allows to decrease the sound, air, soil and water pollution created during construction process, which considerably impacts the living conditions in the urban areas.	INHUS reduces resource and material waste through optimised planning, manufacturing and delivery operations.

Fostering INHUS culture of growth and innovation

Innovation stands as the key element of INHUS culture. We believe that it will help us achieve our ambitious sustainability targets and foster a transition towards a more sustainable society.

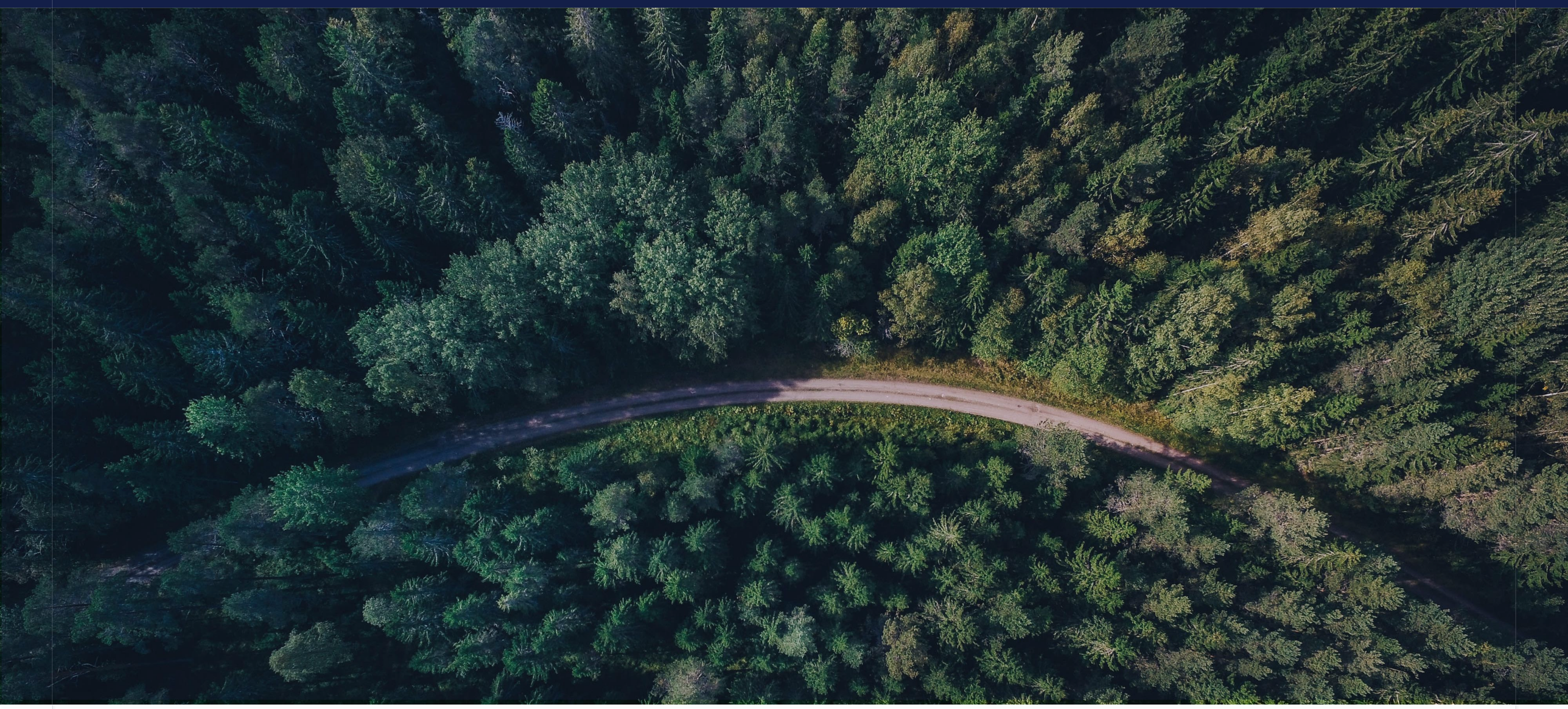
While there still remain low hanging fruits to pick, most of the change will be achieved by consistently performing incremental upgrades to our operations in the next 30 years. Such transformation requires the ability to examine and rework our business modus operandi with creative revisions.

Consequently, we have expanded the foundational understanding of a sustainable workplace (defined by safety, zero discrimination, fair compensation, career growth) to include fostering inventiveness, experimentation and creativity. In this section we include actions that encourage these organisational traits.

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ALIGNMENT WITH UN'S SUSTAINABLE DEVELOPMENT GOALS (SDGS)

The UN's 17 Sustainable Development Goals address today's biggest global challenges. Together, they express an ambition that secures freedom, prosperity and the environment for future generations. All actors in society have a responsibility to achieve the goals by the year 2030. The goals to which we believe we can contribute most through our activities are the UN's goals 6, 8, 9, 11, 12 and 13.

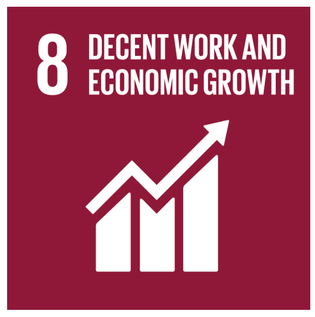




GOAL 6 We improve water quality by reducing pollution, eliminating dumping and minimising release of hazardous chemicals and materials as well as initiating recycling and safe reuse initiatives in our factories, contributing to UN goal 6.



GOAL 11 Prefabrication and smart on-site solutions minimise the impact constructions have on the surrounding urban environment and communities. Along with placemaking and community building initiatives, these measures reduce the adverse per capita environmental impact of cities and contribute to UN goal 11.



GOAL 8 We achieve business growth and financial stability while creating a modern, safe, non-discriminatory, stimulating work environment with market-based wage setting. We also focus on achieving higher levels of productivity through innovation and continuous employee trainings, contributing to UN goal 8.



GOAL 12 Prefabrication and continuous innovation allows to increase the efficient use of natural resources, minimise waste and improve waste management in our own operations, while responsible purchasing and procurement helps to expand this effect in the value chain, contributing to UN goal 12.



GOAL 9 Through continuous innovation – improving building materials and processes, using resources efficiently, adopting clean and environmentally sound technologies – we develop more sustainable buildings and up-skill more people into R&D positions, thus contributing to UN goal 9.



GOAL 13 Measured and focused actions allow us to reduce the climate impact in the value chain and raise awareness on an employee and societal levels, contributing to UN goal 13.

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ACTIONS AND METRICS

ACTION BREAKDOWN

CO2e reduction throughout the building lifecycle

01 | Resource extraction

Choosing certified material suppliers to assure transparency and environmental quality.

EPD database established for supplier network

Action: An EPD database has been established for INHUS supplier network and is used as an independent criteria in the selection process.
Result: *80* % fully certified suppliers (materials, EPDs, ISO - 9001, 14001, 45001).
Potential: 100 % fully certified suppliers.

Supplier visits

Action: INHUS representatives visit all the major suppliers, evaluating the facilities, processes and overall commitment to sustainability.
Result: 60 % of main suppliers have been visited in the last 2 years.
Potential: 100 % of suppliers visited in the span of 2 years.

02 | Engineering

Exploring ways to increase the longevity and performance of INHUS buildings at the starting stage.

Reducing excess reinforcements

Action: INHUS has steadily reduced the amount of excess reinforcements being used in concrete. This has been achieved by revising all elements during the engineering stage.
Result: 10 % less reinforcements used in concrete.
Potential: Additional 20 % less reinforcements used in concrete.

03 | Manufacturing

Product innovation - experimenting and researching ways to optimize production, composition of concrete and exploring alternative materials to reduce CO2 emissions.

Improving concrete composition

Action: Experiments with cement **types** lead us to discover that by using the cement type designed for the summer months all year round, we can reduce the overall CO2 emissions.
Result: In the production of single-layer wall panels, the CO2 content was reduced by 3 %.
Potential: An additional 5 % reduction.

Reducing the amount of cement

Action: Conducting experiments with novel concrete compositions by adding microsilica and slag to reduce the overall volume of cement needed for manufacturing.
Result: The project is currently in lab testing phase.
Potential: We expect that the use of microsilica could help us achieve up to 20 % lower CO2 emissions during manufacturing of single-layer wall panels, while the use of slags could lower the emissions by 30 %.

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Reducing the use of plywood

Action: INHUS uses metal moulds to form the door openings, standardised side formwork (up to 50 cycles) and height-adjustable metal formwork to reduce the amount of plywood used in the process.
Result: 18 % reduction in plywood use per 1 m^2 of production.
Potential: additional 7 % reduction with further standardisation.

Change to LED lightning

Action: Replacing 400w metal halogen luminaires with 200w LED luminaires, reducing electricity expenditure and increasing the lighting quality.
Result: 90 % of luminaries replaced.
Potential: 100 % of luminaries replaced.

Process standardization

Action: Standardisation of manufacturing through a wide scope of activities - switching to a centralised ordering system, standardised dispensers for the secondary materials, continuous staff training to reduce the number of errors in the manufacturing process.
Result:
- 20 % reduction in the use of secondary materials
- 45 % reduction of materials used for repairs
- 45 % reduction of tools used for repairs, such as drills, cutting discs, etc.
- 26 % reduction in the use of sealing materials such as silicone

Potential: additional 7 % reduction with further standardisation.

04 | Logistics

Reducing CO2 emissions during product and resource transportation.

Just-in-time deliveries

Action: By organising the trucks to deliver manufacturing parts just-in-time for construction, INHUS reduced the number of required construction operations. There is no longer need to move the products to a storage location and then reassemble when convenient. At the same time, increased truck load percentage reduced the number of delivery journeys.
Result: 10 % reduction of construction operations.
Potential: Additional 5 % reduction of construction operations.

EURO 6 vehicle standard

Action: INHUS delivers building parts only with trucks that adhere to EURO6 standard.
Result: 100 % of deliveries done with EURO6 standard trucks.
Potential: Upgrade to the next standard level.

Delivery from suppliers optimisation

Action: Small load deliveries restricted to two days a week.
Result: The overall number of deliveries reduced from 100 to 55 per month.
Potential: Reducing the number of deliveries to 40 per month.

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05 | Construction

Reducing the construction site impact on the surrounding environment (environmental and social).

Crane electrification

Action: Site electrification by switching to electric cranes.
Result: The number of INHUS construction sites using electric cranes instead of cranes with internal combustion engines increased from 50 % to 95 %.
Potential: 100 % electrified crane fleet and calculating the precise electrical expenditure in each construction site.

Waste recycling

Action: INHUS increased the number of construction sites that recycle waste.
Result: 100 % of construction sites that recycle waste.

Reuse of fastening materials

Action: Increased the reuse of fastenings used for building transportation and construction.
Result: 50% of fastenings reused.
Potential: 80% of fastenings reused.

Dust collection

Action: INHUS uses special dust collecting vacuum cleaners that minimise the impact of construction to the surrounding areas.
Result: 100 % of INHUS Sweden construction sites are equipped with dust collecting vacuums.
Potential: 100 % of INHUS construction sites equipped with dust collecting vacuums.

Sustainable operations and reduced construction impact

INHUS standard - safe place to work

Action: INHUS works in partnership with clients to understand, incorporate and adhere to their safety requirements and standards in order to ensure the highest compliance and safety of the construction site. This includes analytics of the client's metrics and methods, formulating guidelines, training employees and steering the process.
Result:
- Total number of lost-time accidents
- Lost work hours and work days

Potential: 0 accidents and incidents.

Low intensity construction

Action: Measuring the intensity of INHUS construction sites.
Result: Early results indicate that INHUS construction sites are lower-intensity - they are more efficient, have a lower impact on the city and are a safer place to work than most of the other non-prefabricated construction sites.
Potential: Greater product completeness in the factory.

Fostering INHUS culture of growth and innovation

Culture of innovation

Action: INHUS continuously invests into process improvement (LEAN) activities, incentives innovation within the company and provides employee trainings.
Result:
- Increasing number of people that are involved in process innovation
- Increasing number of implemented process improvements

Potential: 100 % of engaged employees.

Modern workplace

Action: We are developing a modern organisation with progressive leadership, engaged and conscious employees. The task consists of ensuring an equal, safe, stimulating work environment, providing continuous growth and education opportunities and conducting regular employee and management surveys to understand and prioritise development needs.
Result:
- Composition of governance bodies by age and gender
- Increasing portion of engaged employees

Potential: 70 % of engaged employees.

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METRIC BREAKDOWN

EMPLOYEES	2021		2020		Change	
	Men	Women	Men	Women	Men	Women
Number of employees	564	47	517	43	9%	9%
Composition of leadership	30	4	27	4	11%	-

EMPLOYEE ENGAGEMENT	2022		
Employee engagement assessment	65%		

HEALTH & SAFETY	2021	2020	Change
Total number of accidents	39	20	95%
Workplace safety screenings (factories, sites)	195	188	3,5%
Employees who underwent work safety trainings	531	229	132%

ENERGY CONSUMPTION	2021	2020	Change
Electricity consumption (1 m^3 of concrete) (kWh)	29,74	32,73	-9%
Renewable energy consumption (%)	100	100	-
Fuel consumption (1 m^3 of concrete) (kWh)	3,29	4,81	-32%
Waste that is being recycled (t)	5011	4493	12%

EMISSIONS (kg/t of product)	2021	2015	Change
Hollowcore slabs	155	186	-17%
Massive wall panels	169	183	-8%
Three-layer wall panels	203	226	-10%
Columns	220	242	-9%
Beams	202	202	-

*According to the standard LST EN 15804:2012+A2:2020 "Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products", the Environmental Product Declarations (EPD) are recalculated after 5 years from their verification, if the change in the environmental performance of the product amounted to ±10% according to any declared EPD indicator.

PROJECTS WITH FINAL FACADE FINISHING	2021		
Part of projects with final facade finishing	29%		

GROWTH AND INNOVATION	2021	2020	Change
Number of people involved in process innovation	183	166	10%
Number of process improvements made	1220	922	32%

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