INTERNAL AUDIT IN INFORMATION TECHNOLOGY ENVIRONMENT

Next Gen Internal Audit Survey

01 High Impact Reporting

02 Competing priorities are the greatest barrier to internal audit innovation

03 Next-Generation Internal Audit Enabling Technology maturity levels continue to lag ➡ Use and integration of data and enabling technologies
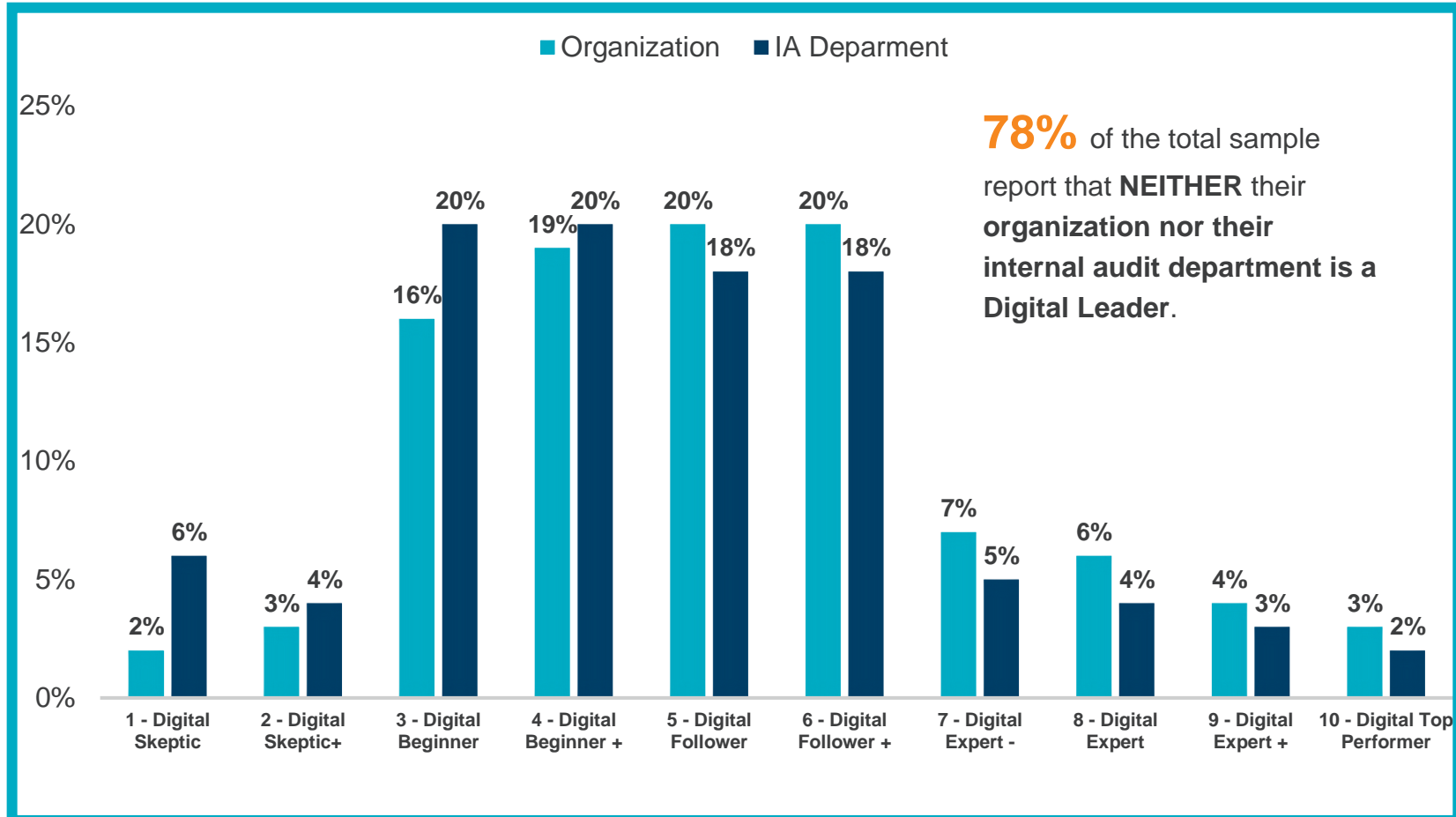
04 Access to talent, especially technology skills, is a major challenge

05 The board and C-suite support internal audit's innovation agenda

Enabling Technology

Organization ■ IA Deparment

78% of the total sample report that **NEITHER** their **organization nor their internal audit department is a Digital Leader**.

Chart data:

Category	Organization	IA Deparment
1 - Digital Skeptic	2%	6%
2 - Digital Skeptic+	3%	4%
3 - Digital Beginner	16%	20%
4 - Digital Beginner +	19%	20%
5 - Digital Follower	20%	18%
6 - Digital Follower +	20%	18%
7 - Digital Expert -	7%	5%
8 - Digital Expert	6%	4%
9 - Digital Expert +	4%	3%
10 - Digital Top Performer	3%	2%

NEXT-GEN COMPONENT	CAE/DoA
Advanced Analytics	4.1
Automation Tools	3.9
Process Mining	3.2
Artificial Intelligence (AI)	2.6

SOCIAL INTELLIGENCE

100% POPULATION TESTING

VIRTUAL INSPECTION

VOICE ANALYSIS

ANALYTICS AS A SERVICE

NLP BASED REPORT WRITING

RISK QUALIFICATION

OCR BASED SCANNING

DATA DISCOVERY

CONTINUOUS MONITORING

WORKFLOW AUTOMATION

RISK HEATMAPS

STATISTICAL SAMPLING

PROCESS MINING

INTEGRATED ANALYTICS

DYNAMIC DASHBOARDS

Risk Assessment   Planning & Sample Selection   Process Walkthrough   Controls Testing   Reporting & Follow-up
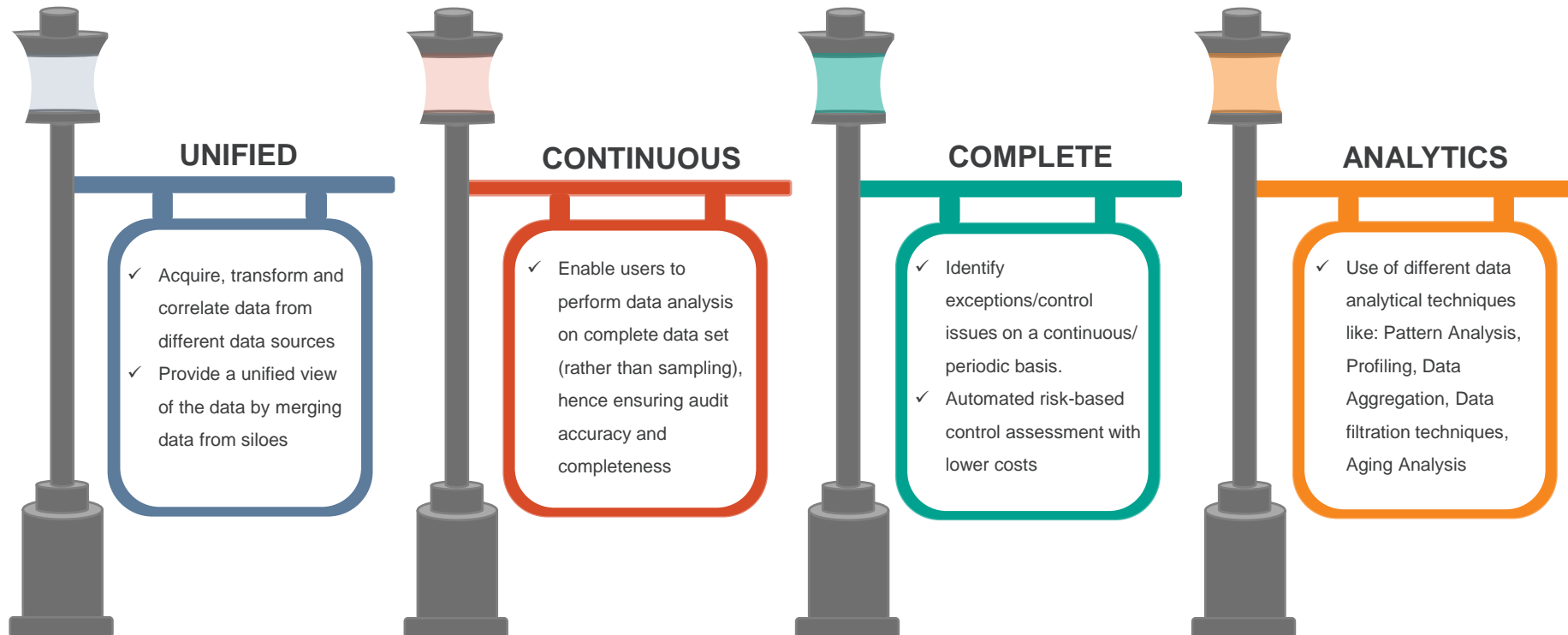
Assurance Activities

Analytics

Continuous Monitoring

Continuous Control Monitoring is an automated, ongoing process that enable Internal Audit to collect data from business processes/ transactions and generate various data analytics based on a unified data set to ensure complete and continuous coverage of Internal Audit function.

UNIFIED

- ✓ Acquire, transform and correlate data from different data sources
- ✓ Provide a unified view of the data by merging data from siloes

CONTINUOUS

- ✓ Enable users to perform data analysis on complete data set (rather than sampling), hence ensuring audit accuracy and completeness

COMPLETE

- ✓ Identify exceptions/control issues on a continuous/ periodic basis.
- ✓ Automated risk-based control assessment with lower costs

ANALYTICS

- ✓ Use of different data analytical techniques like: Pattern Analysis, Profiling, Data Aggregation, Data filtration techniques, Aging Analysis

Procure to Pay Analysis - Payment Analysis Dashboard

Risk Indicator 1 : Sequence Gap in Payments	Risk Indicator 2 : Payment Stratification - $'s and Volume
Risk Indicator 3: Difference between Payment and Invoice	Risk Indicator 4: Payment made in excess of PO value and invoice
Risk Indicator 5 : Small Dollar Payments	Risk Indicator 6 : Average Days to Pay
Risk Indicator 8 : Duplicate Payments	Risk Indicator 9 : Multiple Payments – Same Day, Same Vendor
Risk Indicator 11 : Bank payments to accounts not found in Vendor Master	Risk Indicator 12 : Gap in Sequence of Cheque Number

Risk Indicator 7 : Holiday Activity

Risk Indicator 10 : Negative value transaction

The Payment Analysis Dashboard tries to capture the inefficiencies that exist in the Payment process which can range from weak controls to indication of Fraud or in some cases statistical analysis of data. The objective of the dashboard is to allow the user to take an informed decision

P2P | Payment Analysis Dashboard

G6 R8 | Duplicate Payments

Multiple payments which are made to the Same Vendor ID against the same Invoice ID is considered as a Duplicate Payment

The distribution over a period of time helps the user in the analysis of the understanding how much exposure the company has encountered recently and on a ongoing basis

The Top N(10) Vendor analysis allows the user to understand who are the major contributors during the time period
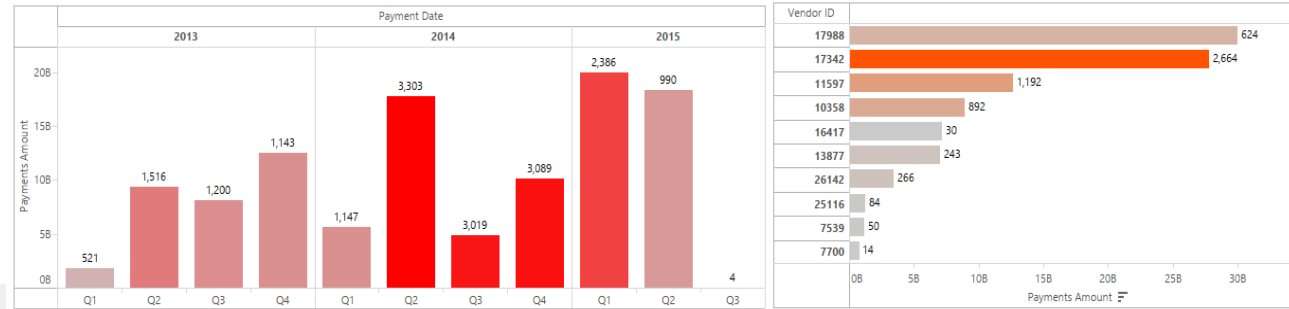
Invoice ID	Vendor ID	Beneficiary Ban..	Beneficiary Name	Payment Status	Bank Transaction Numb..	Payments Amount
2191010	13877	البنك السعودي البريطاني	شركه هواوي تك اكنمت العربيه السعوديه المحدوده	FORMATTED	572728	39,568,224
2191009	13877	البنك السعودي البريطاني	شركه هواوي تك اكنمت العربيه السعوديه المحدوده	FORMATTED	572728	39,568,224
2191006	13877	البنك السعودي البريطاني	شركه هواوي تك اكنمت العربيه السعوديه المحدوده	FORMATTED	572728	39,568,224
2191004	13877	البنك السعودي البريطاني	شركه هواوي تك اكنمت العربيه السعوديه المحدوده	FORMATTED	572728	39,568,224
2190976	7772	البنك الاهلي التجاري	الشركه التعاونيه لانظمة الاتصالات	FORMATTED	572515	1,375,496
2190967	17342	البنك السعودي البريطاني	فرع شركة اريكسون ايه بي	FORMATTED	572726	26,311,761
2190964	17342	البنك السعودي البريطاني	فرع شركة اريكسون ايه بي	FORMATTED	572726	26,311,761
2190961	17342	البنك السعودي البريطاني	فرع شركة اريكسون ايه بي	FORMATTED	572726	26,311,761

Group 6 Summary Dashboa... | Group 6 R1 & R12 | Group 6 R2 | Group 6 R3 & R6 | Group 6 R5 | Group 6 R7 | Group 6 R8 | Group 6 R9 | Group 6 R11

Group 6 Summary Dashboard | Group 6 R1 & R12 | Group 6 R2 | Group 6 R3 & R6 | Group 6 R5 | Group 6 R7 | **Group 6 R8** | Group 6 R9 | Group 6 R11

Analytics

Application Programming Interface

Information available in Public Domain

+

Organizational MIS, Master Data, System Reports

Control Analytics Platform

=

Insightful Audit Exceptions, Fraud Indicators etc.

	Theme	Risk	Automated Test
1	**Employee Vendor Collusion**	• Employee running parallel business and possibly providing products / services to client as well	• Check through employee PAN linked with GST registration
2	**Vendors created just to take business from company**	• Business awarded to relatives of client's employees, inexperienced vendors etc.	• Check for common directors in vendors, employee is a director in vendor; GST registration very close to vendor registration date
3	**Payments in unauthorized bank accounts**	• Financial leakages due to payment in unauthorized bank accounts (other than of respective vendors / employee's bank)	• Verify the name of the bank account holder through account number and IFSC
4	**MSME Vendors**	• Delayed payment to MSME vendors attracting penalty due to incorrect classification of vendors	• Realtime validation of MSME status of vendors through registration
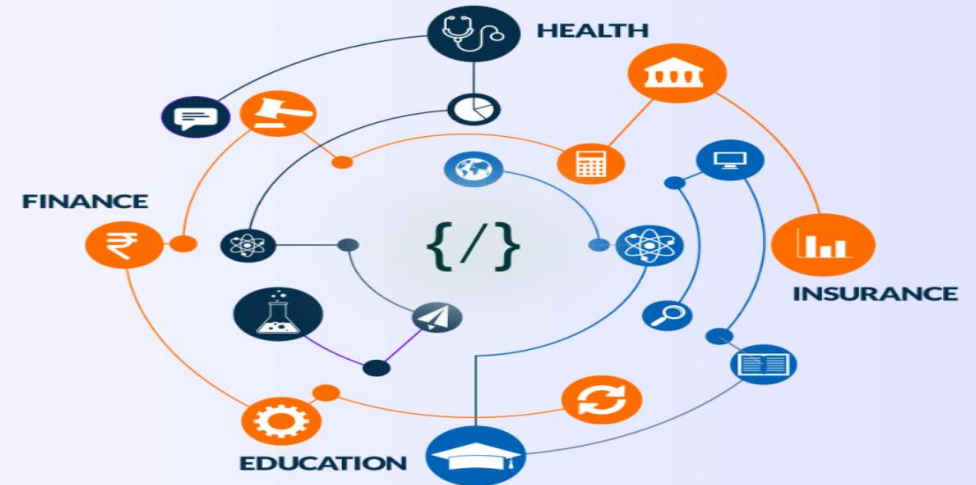
KYC APIs providers

PAN Card

Income Tax Department, Govt of India has provided PAN Verification Records to Indian citizens via DigiLocker.

Driving Licence

Driving License (DL) can be pulled by citizens into their DigiLocker accounts.

Ration Card

Ration Cards issued by Food, Civil Supplies and Consumer Affairs Department are available for Verification.

Robotics Process Automation

RPA AUTOMATION

Robots

Read and download relevant emails
for processing

Centrally store documents in a
central repository

Interact with multiple applications,
i.e. Email, Shared Drive, ERP, Excel

Securely logged on to ERP,
validate and performed **data entry**

Complete task and logged out of ERP,
1 min equals to 15 min of work for a person

Generate task (invoice) summary
report and email to process owner

Assuming 7,000 invoices are to be processed monthly and each invoice requires 15 minutes processing time

1750
HOURS
via Manual Processing

116
HOURS
via robotic

93%
reduction in
processing time

Over **200** man-day
saved

Process Mining

I don't understand why my process takes so long; we automated it last year!

How do I find out which part of my invoicing process is currently the most delayed?

I want to know if my process is completely standardized or if there are variations..

Can you help me identify if my on-ground processes are completely aligned with my documented process?

Process Excellence, Department / Heads, Process Owners, Data Analytics teams, **Internal Audit**, CXO's

Are any of my processes non-compliant towards my governance / internal control practices?

Process Mining is a method to map the flow of various activities in a process end to end by using event logs constructed from digital footprints. These footprints are in the form of timestamps that are generated or recorded in MIS/ERP Systems to indicate occurrence of a certain activity in a Process.
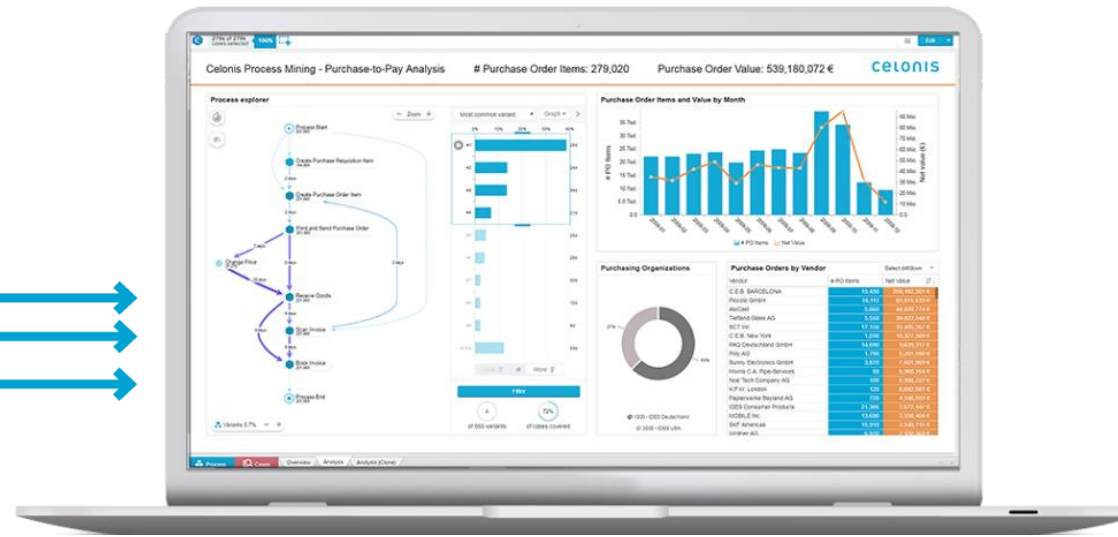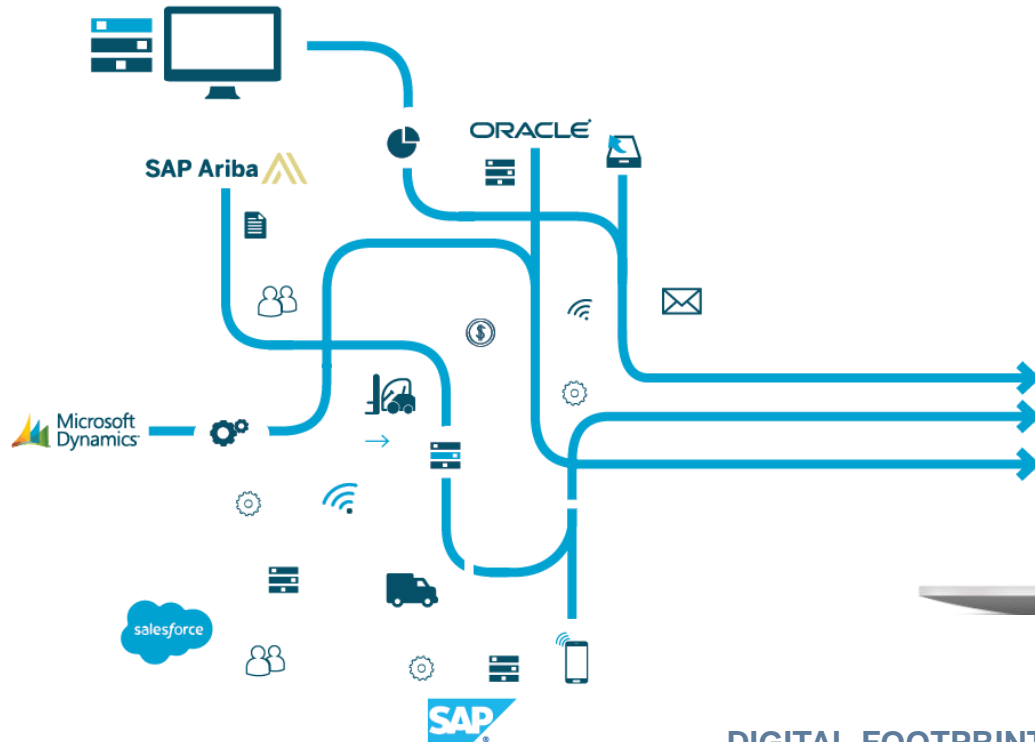
EVENT LOG

DIGITAL FOOTPRINTS

Celonis Process Mining finds & reconstructs digital workflow traces from MIS/ERP Systems
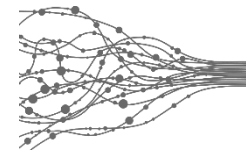
TIMESTAMP	ACTIVITY	PO NUMBER
2016-12-01	CREATE PURCHASE ORDER	#1234
2016-06-23	START PRODUCTION	#5678
2016-07-14	RECEIVE PAYMENT	#1234
2016-07-14	SEND EMAIL	#9012

The Real Process…

See the happy paths

See the core process flow.

Explore deviations

Reveal less common paths and activities. ID non-compliance, and inefficiency

Get the full picture

Data coverage of 100%. Full process transparency.
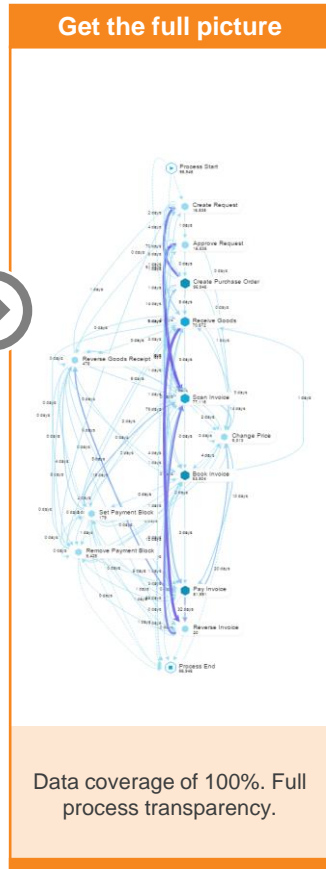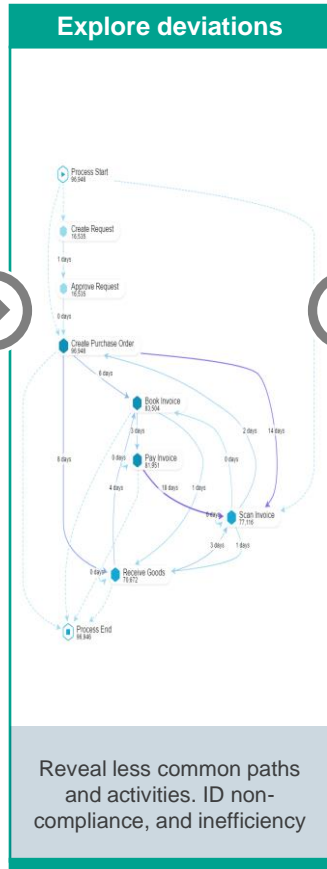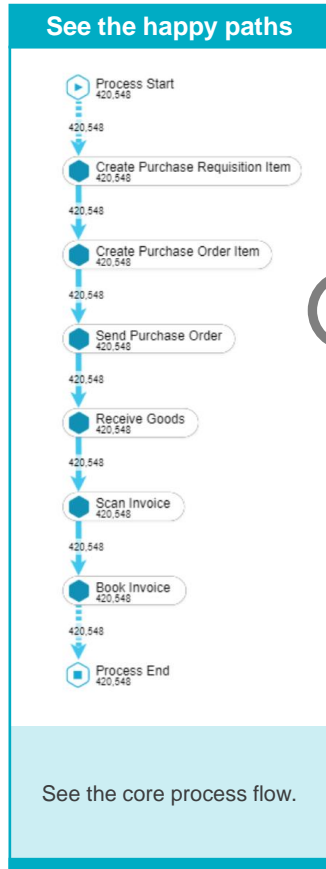
Why Celonis For Internal Audit?

Process mining tools can fundamentally change the way that we analyze processes and perform audits.

- **Automate the walkthrough process** – replace interviews with advanced analytics and review process based on 100% populations.

- **Data tells us what is actually happening –** automatically identify process variants and complexities, identifying areas that do not comply with intended process design.

- **Support risk assessment activities** – identify "hot spot" areas, drive audit focus.

- **Make findings more impactful** by quantifying the impact of non-conformance and benefits of adherence to consistent process.

Analytics

Voice Analytics
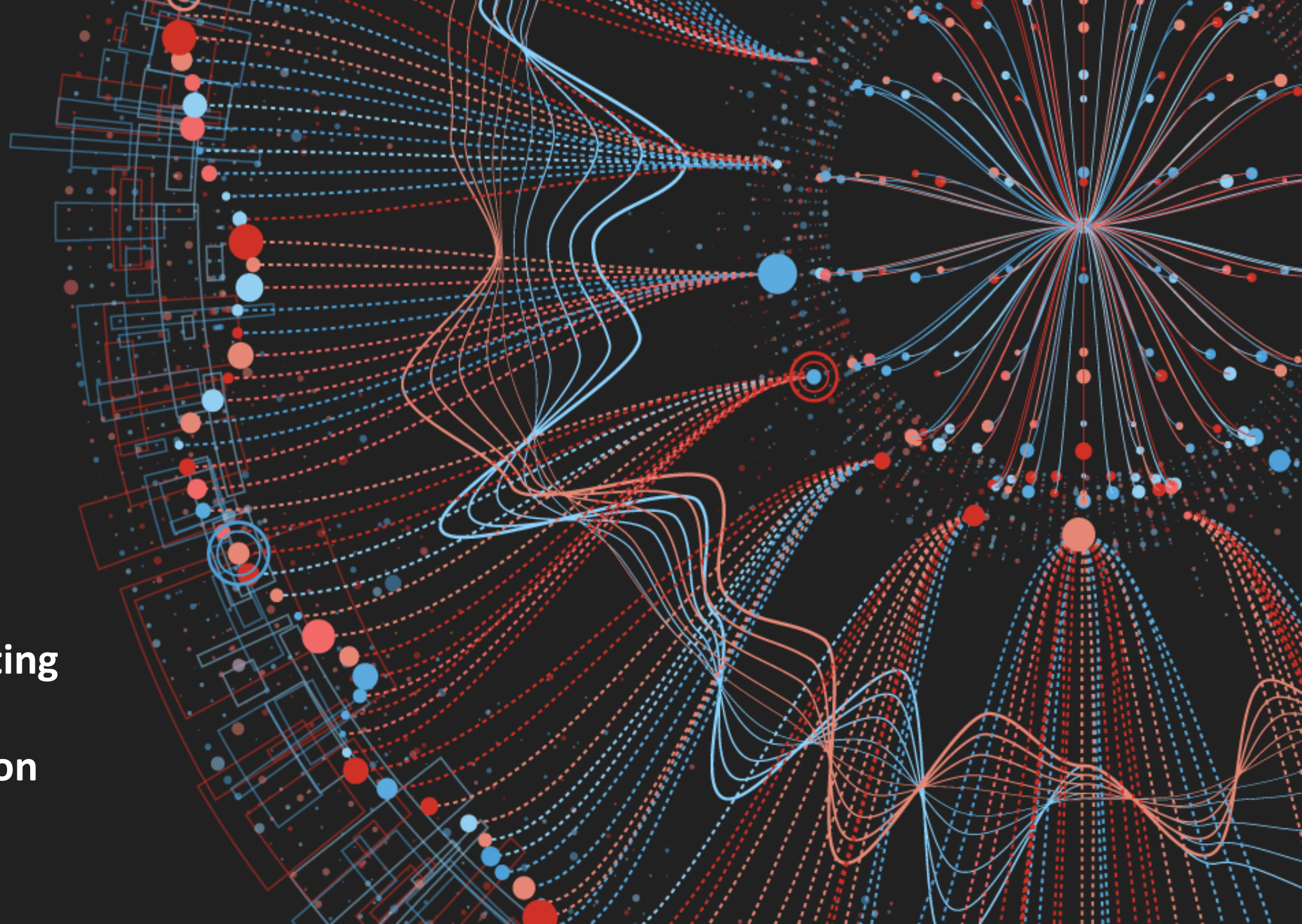
Dynamic Reporting

Data Visualization

RESOURCE MANAGEMENT

ISSUE MANAGEMENT

Analysis 3 - Refund amount transferred to same customer multiple times

Refund Amount	# of Refunds	# of Customers
₹ 17,64,532.00	248	248

Year
- ☐ 2021
- ☐ 2022

Month
- ☐ August
- ☐ September
- ☐ October
- ☐ November
- ☐ December

Store Name
- ☐ Bangalore TR
- ☐ Bangalore TR 2
- ☐ Banjarahills FC
- ☐ Bapu Nagar
- ☐ Basaveshwara ...

Payment Mode
- ☐ AmazonPay
- ☐ Cash
- ☐ CRED
- ☐ Cred (Razorpay)
- ☐ Credit Card

Refund Mode
- ☐ AmazonPay
- ☐ Cash
- ☐ CRED
- ☐ Cred (Razorpay)
- ☐ Credit Card

Rider Name
- ☐ Aditya
- ☐ akash
- ☐ amit
- ☐ ashra
- ☐ devik

Brand
- ☐ Amazing Bake
- ☐ Great Pizza
- ☐ Maha Burger
- ☐ Mom Bowl
- ☐ Perfect Coffee

Count of Duplicate refunds per Customer

Customer	Count
8919254372	28
9390552168	27
7584047125	20
9004381949	16
8095994437	13
8360001075	13
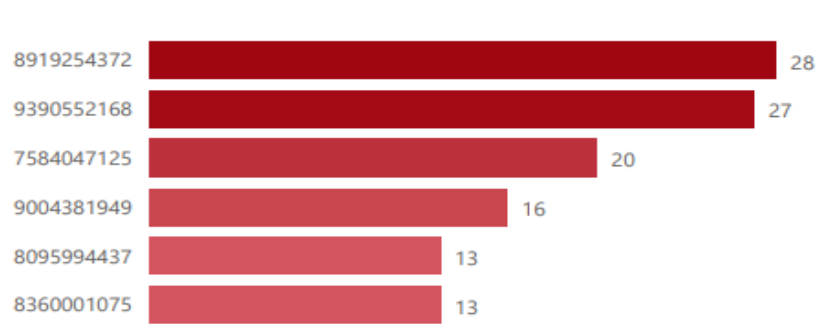
Refund Details

Mobile Number	Order CRN	Refund Amount	Payment Mode	Refund Mode	Store	Rider	Brand
9390552168	82577133	₹ 400	Cash	Cash	BEML FC	sheff	Maha Burger
8360001075	83512894	₹ 500	Credit Card	Cash	BEML FC	mahes	Sweeth Tooth
7760016217	85669386	₹ 500	paytm	paytm	Bavdhan RK	priya	Maha Burger
9390552168	79153130	₹ 500	AmazonPay	AmazonPay	BEML FC	Sakshm	Maha Burger
9421319264	85732409	₹ 500	gpay	gpay	Bangalore TR 2	shais	Wraps
9390552168	83045770	₹ 500	Cash	Cash	BEML FC	sheff	Maha Burger
7838690366	80190283	₹ 500	Simpl	Simpl	BEML FC	taqde	Maha Burger
Total		**₹ 17,64,532**					

Rider wise Refund Amount and Count

● Refund Amount ━●━ Count of Refunds
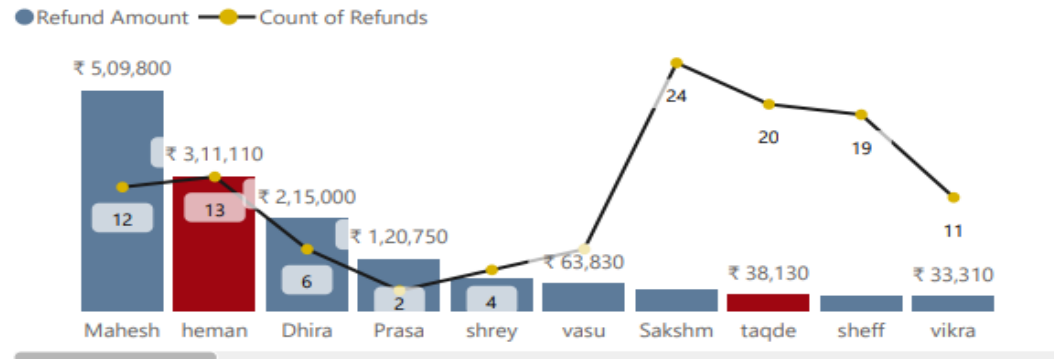
Refunds generated to Employees

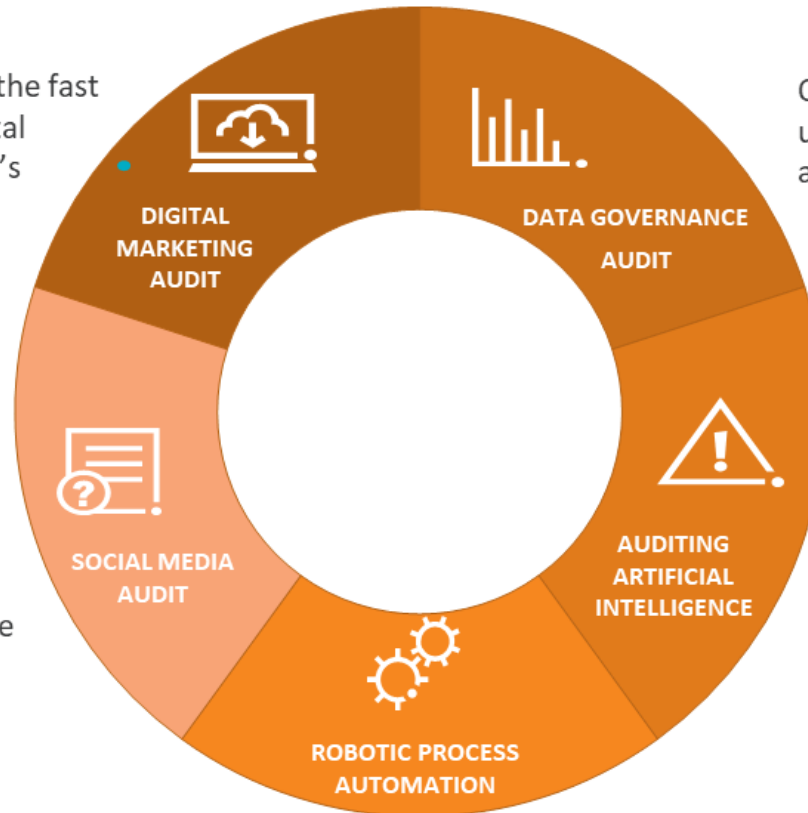● Refund Amount ━●━ Count of Refunds
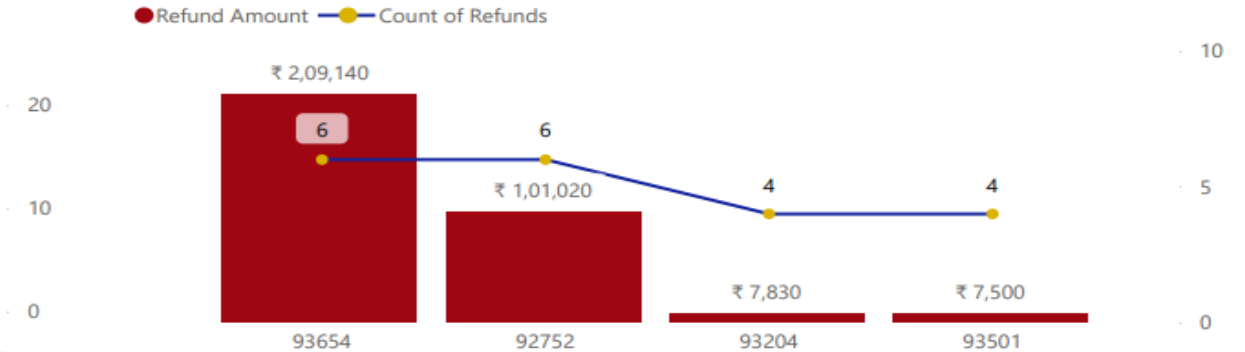
Auditing Emerging Technologies

Audit Areas of Focus

A digital marketing audit provides the fast track to understand how your digital investments are working and what's needed to accelerate ROI

Overall management of the availability, usability, integrity and security of data used in an enterprise

How prepared are organizations in ensuring that their social data strategy and the investments they are making are meeting their revenue, customer connect, security and regulatory requirements?

As AI systems evolve, it is conceivable that—at some point—they could provide autonomous knowledge. However, algorithms designed to achieve optimal efficiencies could inadvertently result in negative or unforeseen consequence

Robotic process automation is an emerging form of business process automation technology based on the notion of software robots or artificial intelligence worker.

DIGITAL MARKETING AUDIT

DATA GOVERNANCE AUDIT

SOCIAL MEDIA AUDIT

AUDITING ARTIFICIAL INTELLIGENCE

ROBOTIC PROCESS AUTOMATION

THANK YOU