



Protecting patients, fertility centres and donor banks from the risks of error in IVF



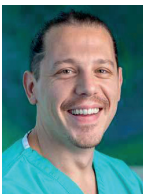
Matcher is a barcode-based electronic witnessing, labelling, scheduling and traceability system with interactive dashboards for visualisation, analysis and reporting of Matcher data Insights

What do customers say?



Dr. Nicolás Prados, PhD
Director, IVF Laboratory, IVI Sevilla

“*Matcher complements our standard approach to total quality management across the IVI network.*”



George Koustas
Lab Director, The Agora Clinic, UK

“*We use Matcher extensively as a lab tool for stock receipt and management as well as traceability – giving us alerts when a product is about to expire and reporting out the patients who come into contact with certain products.*”



Matthew “Tex” VerMilyea PhD, HCLD
Vice President of Scientific Advancement, Ovation Fertility, USA

“*The data that Matcher provides will help us pinpoint process bottlenecks, standardize best practices, and estimate staffing and scheduling needs based on each lab’s real-time demand for services and unique mix of cycles and procedures.*”



Gerry Celia, PhD, HCLD
Lab Director, Dominion Fertility, Arlington VA, USA

“*Because there is no capital cost and the fees are per cycle, we have been able to demonstrate significant cost savings from day one.*”

What is Matcher?

Matcher is a barcode-based electronic witnessing, labelling, workflow scheduling, traceability and insights system.

It has been specifically created for IVF clinics and donor banks to help prevent errors through misidentification of patients and their gametes and embryos by replacing human double-checking, reducing the risks of error and saving valuable staff time.

Matcher provides complete electronic traceability, recording,

'who, what, where and when'

at every step, from initial registration through to PGT, cryopreservation or transfer.

Fertility centres using Matcher work with confidence knowing that they have protected their staff and patients from the risk of mistakes, that the technology is safe and they have a quality management system that streamlines their working practices, saving time and money.



Why do mistakes happen ?

“Despite using verbal checks to ensure patient safety, healthcare staff do make mistakes. One explanation for this is that humans are inclined to respond automatically to questioning without matching their actions to their words- known as ‘involuntary automaticity’.

Introducing automated systems such as barcoding is suggested as an effective way of reducing mistakes caused by human error.”

Ref: Involuntary automaticity: a work-system induced risk to safe health care. Health Serv Manage Res. 2005 Nov;18(4):211-6.



Unlike other systems, Matcher records photographic evidence of all procedures as well as providing centres with unbroken chain of custody evidence

Why do I need Matcher ?

To protect patients and staff from the risks of errors in IVF and continually streamline fertility centre processes

Helps prevent errors in fertility centres

How ?

Error alerts

Alerts to potential mistakes before an incorrect transfer of material occurs anywhere, including freezing, thawing and PGT

Electronic recording

Automatic recording of logins and patient identifiers as well as eliminating the risks associated with paper records, manual entry and spreadsheets

Advanced witnessing with UniTrack

UniTrack labels, identifies, selects and matches same-numbered embryos and biopsies for a procedure as well recording and validating the intended fate

Reduces staff time and work-load

How ?

No second person required

Staff can autonomously witness each procedure in seconds, with reduced disruption, distraction and overtime hours

Automates compliance

Reduces the burden of compliance for many legal, regulatory and quality management requirements

EMR integration

Integrates with EMR systems via open API, automatically importing / exporting patient information, eliminating time and risk of data entry duplication

Safeguards with proof at every step

How ?

Photographic proof

Stored photographic history of every witness step gives visual evidence of patient and unique item label details on all labware and complete cycle photographic history

Chain of custody evidence

Complete evidence trail of 'who, what, where and when' at every witnessing step

Product traceability

Automatically tracks the number of every product lot used in each patient step

Provides insights for continual improvement

How ?

Real-time view

Live overview of workflow scheduling gives instant 'traffic light' view of daily cycle tasks and patient cycle status

Data Insights

Interactive data visualisation dashboards give instant Insights and identify inefficiencies and outliers

Total quality management

Easily accessible data to assess key areas for improvement and standardisation as part of TQMS

Inspiring confidence, peace-of-mind and well-being for management, staff and patients

More than just witnessing

The Matcher system comprises a central database and 8 key functions

Workflow scheduling

Real-time overview of workflow scheduling gives instant 'traffic light' view of daily cycle tasks and patient cycle status.

Electronic witnessing

Matches barcodes on all labware down to embryo level, complete with photographic evidence including UniTrack advanced witnessing, covering the complete PGT process.

Labelling

Labels for everything, including straws, PCR tubes and culture dishes, incorporating human-readable information and unique barcode identifiers to individual embryo, well or microdroplet level.

ID security

Biometric fingerprint ID checks and electronic ID pass for patients and staff provides ID security and helps to prevent mistakes.

Process mapping

Fully configurable process mapping forcing function, including flexibility for choices and a full audit trail for any deviation or override.

Lot tracking

Fully automated traceability of all product lots coming in contact with gametes, embryos and patients.

Insights and Reporting

Instant, visual, interactive dashboards and reporting of all Matcher data for auditing, compliance, root cause analysis, identifying inefficiencies and continual improvement.

Cryo management

Ability to label and witness even the smallest straws and PCR tubes, as well as management, reporting and auditing of cryo stores and vessel space.



The Matcher technology



Matcher is a software system which runs on tablet PCs and uses Benchtop Matcher devices and Pocket Matcher handheld Android Wi-Fi devices, together with label sheet printers, bespoke labels and optional biometric fingerprint readers.

Matcher devices use digital photo images to read the barcoded labels, without the use of lasers, radio frequency radiation, supplementary heating or any equipment modifications.



Benchtop Matcher

Benchtop Matcher readers are fast, scanning proactively as you work, and ideal where space is limited



Pocket Matcher

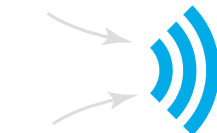
Pocket Matcher readers are portable, connected to Wi-Fi with a simple, easy to use interface

What do they capture?

Benchtop Matcher and Tablet PCs



Devices scan and photograph barcodes



Time & date stamped photographic record of user, patient, item, reader and location

Pocket Matcher handheld devices



Barcode includes centre ID, patient ID and unique item number

Matcher integrates with all EMR systems (e.g. Artisan, IDEAS, MedITEX, MediFirst, BabySentry, Genie, HiX) and custom systems hosted on databases such as Oracle, SQL Server, MySQL, Filemaker etc. Matcher has a web-based API for easy 3rd party integration or can use ODBC, HL7 or Mirth Connect.

The hardware can be supplied with the system, at no capital cost, and the install is quick and easy with our dedicated expert technical support team, on-hand 24/7.

Tablet PC



Label sheet printer



Fingerprint Reader



Label sheets



Unlike other systems, Matcher is simple to install with no equipment modifications required – the Benchtop Matcher is simply placed in the work area and the handheld Pocket Matcher is portable anywhere within the centre

Where does Matcher fit in my centre?

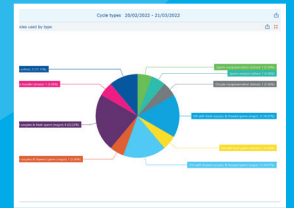
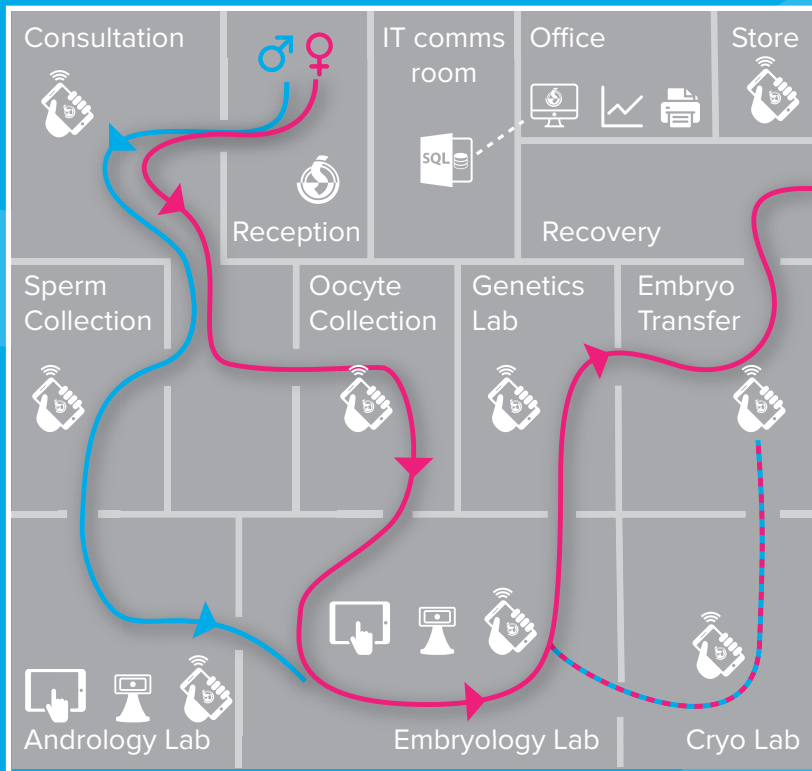
ID security



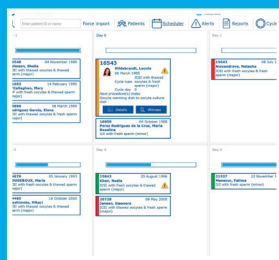
Lot tracking



Witnessing with a Pocket Matcher



Insights & Reporting



Real-time workflow scheduling overview



Witnessing and labelling to embryo level for PGT and transfer



Witnessing with a Benchtop Matcher



Cryo management



Pocket Matcher handheld device



Matcher database



Benchtop Matcher device



Matcher tablet PC



Matcher software on centre's PCs



Matcher data Insights and administration



Label sheet printer



Admin Hub PC hosting Matcher database and API

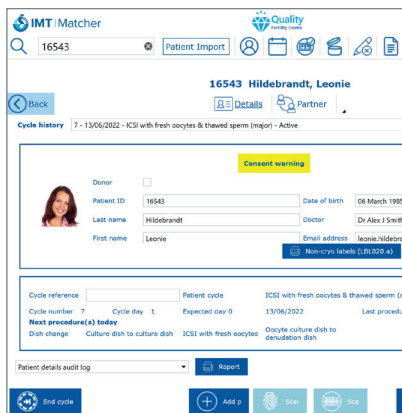
ID security

At registration, each patient can be given an electronic pass or photo ID card which provides reassurance that a secure system is in place to help prevent mistakes in their treatment.

- ▶ Quick and simple to produce
- ▶ Available to send to patients electronically
- ▶ Content and branding is customisable



Provides a visual check against patient database



Fingerprint scanning can be used to confirm patient ID and user logon



Pass or card is used for witnessing in the centre



“*Matcher makes labelling dishes extremely easy. Previously we were handwriting on dishes and some people’s handwriting makes it very hard to read, which is concerning when you’re checking the identity.*”

Simone Koch, Laboratory Director
Kinderwunschzentrum Ludwigsburg, Germany

Unlike other systems that can have multiple points of entry, importing a patient from your EMR is the only ‘point of entry’ in Matcher



Fits-all-sizes

Matcher labels fit all shapes and sizes of labware, even time lapse dishes, vitrification straws, ICSI dishes, biopsy dishes and PCR tubes

Single label

The barcodes and human readable text containing identifying details are printed on the same label, so they cannot be separated

Tested

All aspects of the labels are tested – label materials, adhesive, and printer toner. Testing includes mouse embryo assay, sperm survival assay and over 10 years of human gamete and embryo usage. In addition Matcher's cryo labels are tested for safe, long term liquid nitrogen storage

Matcher includes two types of labels, one for non-cryo and one for cryo/PGT, all of which are fully validated. Each label sheet provides enough labels for every type of labware required, covering the whole treatment cycle from initial registration through to PGT, cryo storage and transfer.

Example of cryo label information



Unlike other systems, there's no added risk from having separate printed labels and electronic IDs because the barcodes and human readable text are simultaneously printed on the same label

Electronic witnessing

“*Matcher replaces the need for human double verification, while ensuring that the appropriate checks take place at each step.*”

Gerry Celia, PhD, HCLD
Lab Director, Dominion Fertility,
Arlington VA, USA

Double check

Matcher alerts users if a dish, tube, vial or straw with the incorrect identity is used, before a transfer of material takes place

Mitigates human error

Unlike a human, Matcher cannot confuse patients with similar names or IDs

Photographic evidence

Matcher takes time and date stamped photographs of every witness step providing a full photographic history

Track all staff present during a procedure

Matcher can record all persons present during a procedure such as at critical points when staff are in contact with a patient



No 'points of entry'

Matcher witnesses every procedure, from patient registration through to cryo preservation/transfer with no human witness needed

Individual item barcodes

Matcher's barcodes are globally unique for each embryo and automatically identify the embryo number when scanned

Increasing staff efficiency

Matcher reduces the need to disrupt and distract staff from their work. It eliminates time spent waiting for a human witness and work can continue when staff numbers are limited e.g. weekends / holidays

Full centre coverage

Benchtop Matcher devices are usually located inside each laminar flow cabinet. Portable Pocket Matcher handheld devices are used in other areas



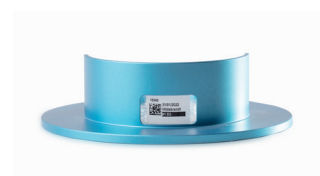
Unlike other systems, there is no need for additional human verification because Matcher both reads and verifies patient identity before each transfer step

Advanced witnessing solution for PGT

Matcher UniTrack™ is an end-to-end solution to help reduce the risks of error in the PGT process.

UniTrack is advanced witnessing functionality which enables centres to label, identify, select and match the same-numbered embryos and biopsies in a procedure, together with an option to select the fate of those specimens, and then verify that fate was actioned.

- Unique barcode labelling of individual wells in multi-well dishes (GPS or microdroplet) using a new PGT specific label
- Unique barcode labelling of corresponding biopsy samples
- Chain of custody through the whole PGT process - culture, biopsy, tubing, vitrification, cryo storage, warming and transfer
- Fast, electronic, photographic records of the whole process
- New Active Well Selector accessory to identify the selected embryo/well



Active Well Selector



Well specific labels

Unique barcodes

Prevents mistakes between same-numbered items in a process (e.g. biopsy, vitrification and FET)

Rejection

Ensures that individual embryos and gametes rejected on the basis of quality are not transferred accidentally

Fate

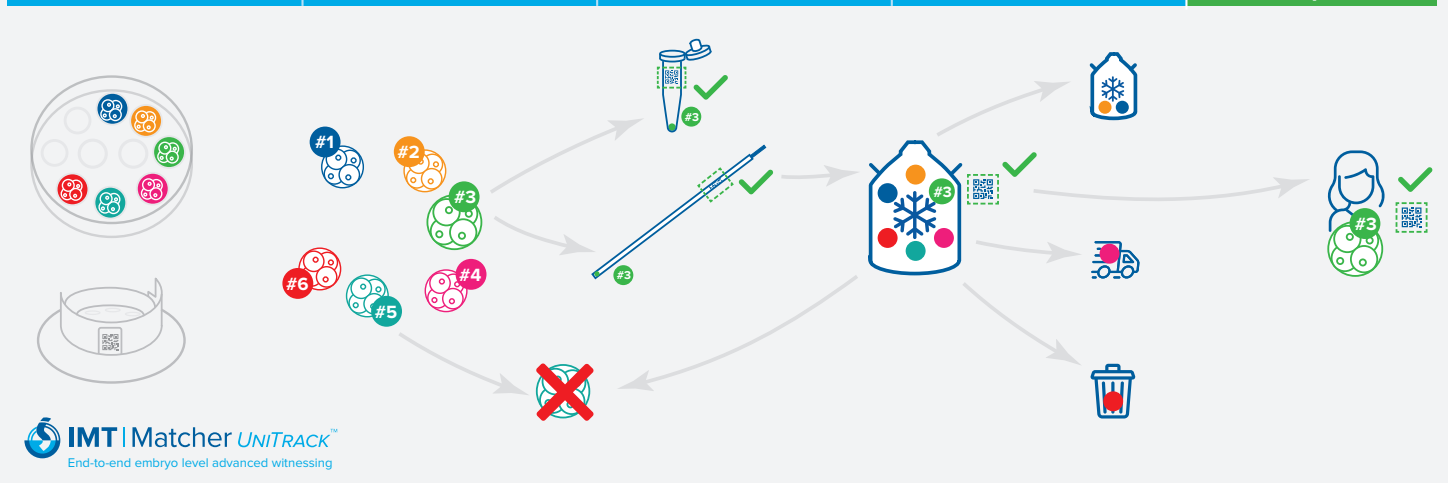
Enables selection and verification of the intended fate of a gamete or embryo, ensuring the correct embryo or gamete is transferred to the correct patient

Cryostores movement

Validates the correct movement of cryopreserved items into, out of or between cryostores



Uniquely barcoded specimens	Embryo rejection	Determine and validate fate	Validate cryo movement	Correct embryo & correct patient
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Matcher is the only witnessing system with an end-to-end witnessing solution for PGT with unique barcode identifiers down to individual embryo, well or microdroplet level

Workflow scheduling

The workflow scheduler gives a real-time overview of patient workflow showing a visual 'traffic light' view of tasks remaining for today, next procedure due, as well as flagging expired consents and unresolved mismatches for review, to the whole team.



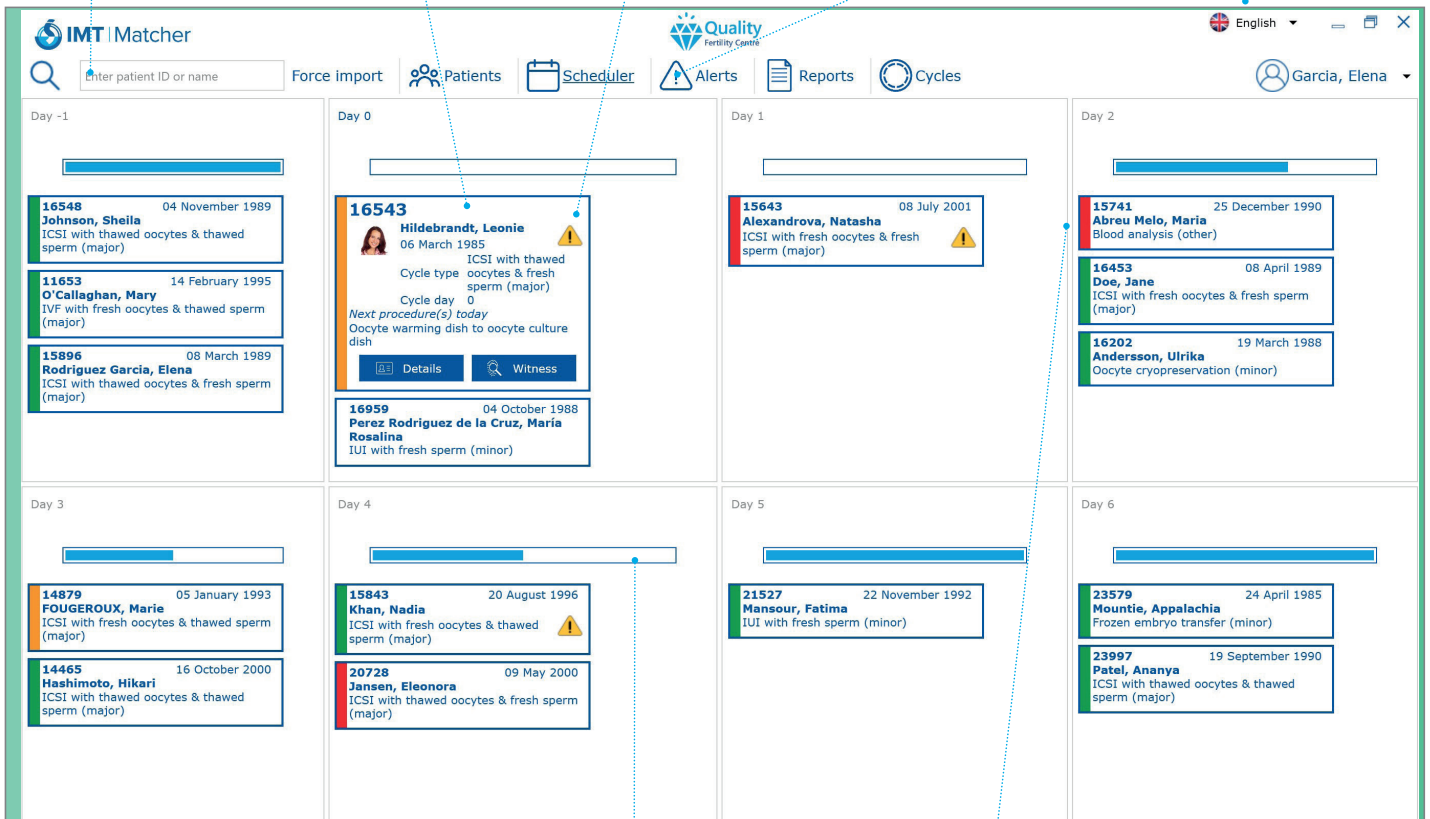
Search Matcher and any linked patient database to import details

Expanding view of selected patient details

Visible alerts for patients with unresolved mismatches or expired cryo consents

Other configurable alerts:
 - Lot expiry
 - Cryo consent
 - Low inventory level

Translatable into multiple languages



Progress bars showing % of processes pending/completed

'Traffic light' coding for 'today's' status

Customer decides on layout and content

During set up and installation, the Matcher team work closely with you to assist in configuring Matcher process maps to your Standard Operating Procedures.

Forcing function

Matcher's process mapping function reflects your process flows, including all decision points and choices prompting the user with the next expected step. This helps ensure that witness steps are carried out in the correct order and are not missed out

Configured to each centre

The process steps are easily configurable to each centre's existing Standard Operating Procedures using drag and drop templates

Flexible

Process maps include all the choices and alternative paths faced during any treatment cycle, e.g. when an IVF converts to an ICSI process or when deciding if some or all embryos require PGT or cryopreservation

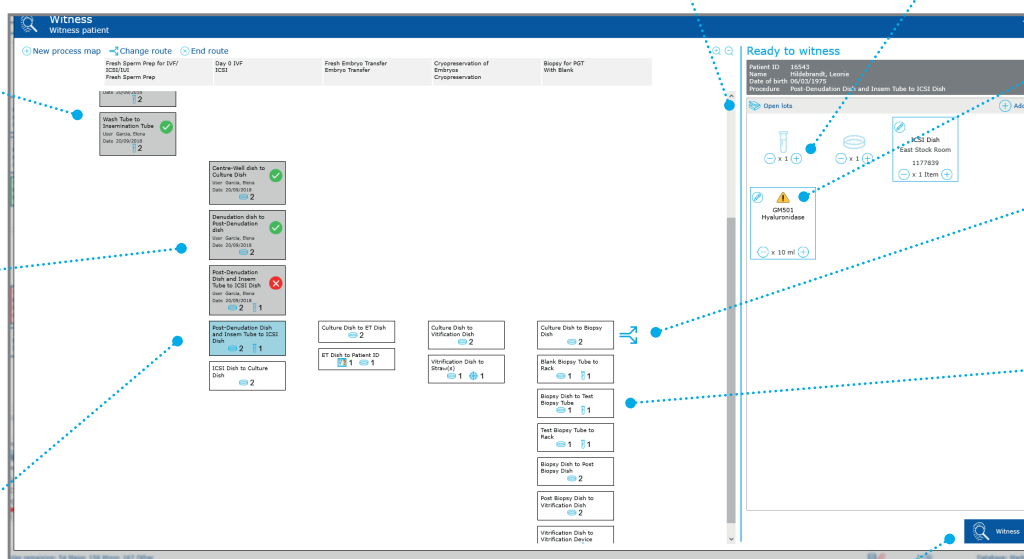
Non-restrictive

Witness steps can be selected out of sequence, e.g. if a step needs to be repeated or skipped, however any deviation will be annotated and recorded and is fully auditable

Witnessing history split into separate maps for clearer display of progress

Each process map or route shows what's been done and what's expected next

Next expected procedure highlighted



'Open lots' exactly when you need

Add (or remove) items on the go

Alert if about to witness with an expired lot

Change of route where decisions are made on the go

Easy linking of process maps to give seamless journey throughout patient cycle

Only 1-click to get a witness result

Unlike other systems, every process step, including cryo, can be labelled and witnessed at no extra cost, as all labels required for a full cycle of treatment are provided within the cycle price

Cryo management

Matcher provides an end-to-end solution for witnessing every step including movements into and out of cryo stores, as well as management of the cryo stores.

Labels

- Cryo labels have been tested for long term LN2 storage printed information cannot rub or scratch off

LN₂ readable

- The labels can be read by the Matcher devices even through nitrogen vapour on small vitrification straws

Configurable label text

- The content of the printed information on each cryo label can be individualised, for example to identify the freeze date, the item number within a batch and the number of embryos or oocytes within the straw

Space allocation

- Available space is displayed and items can be selected and allocated to locations within cryo vessels, using an electronic view of your cryo stores

Tracked movements

- Movements of items into and out of vessels can be tracked and items easily located through the Matcher system

Flexible reporting and auditing tools

- All data captured can be reported in real time, including reports of any changes to cryo records, location and movements for each item, contents of each vessel and all material stored for a particular patient

Link to multiple parties

- Matcher can link cryo preserved material to multiple parties within the database and can also include storage consent for all of them



Unlike other systems Matcher uses barcodes which are automatically pre-assigned to each patient and printed onto label sheets, with sizes for every type of labware, even small complex items

Matcher gives you complete a paperless audit trail of all labware, media, consumables and other associated products or equipment that come into contact with gametes or embryos.

Easy product scanning

- Configured for your own lists of products
- Scans and reads the manufacturer's product barcode

Scan into and out of stock

- Lots can be scanned into and out of stock using either type of device
- Stock tracking function shows minimum stock and alerts users at re-order levels for each product

GSI barcode compatible

- Scans and reads GSI barcodes
- Automatically populates product/lot information of e.g. expiry date and lot number from barcode scan

Tracking usage automatically

- Matcher automatically tracks the number of every lot in each procedure whilst witnessing
- Add or remove products to and from the procedure as you witness

Record receipt, open, start and finish times

- Matcher devices photograph and read the barcode labels when each lot is received, opened, started or finished

Expiry alerts

- Alerts, before and after lots expire
- Real-time warning if expired lot is about to be used in a witness step

Reports and auditing

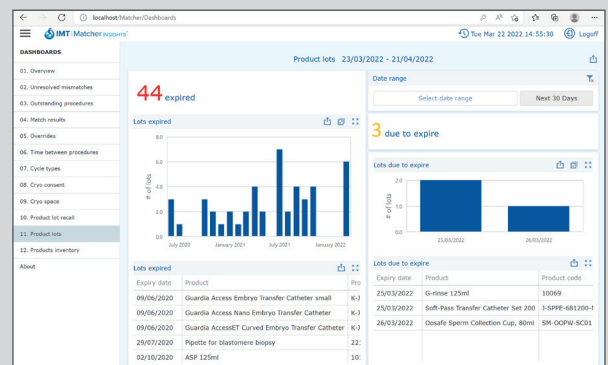
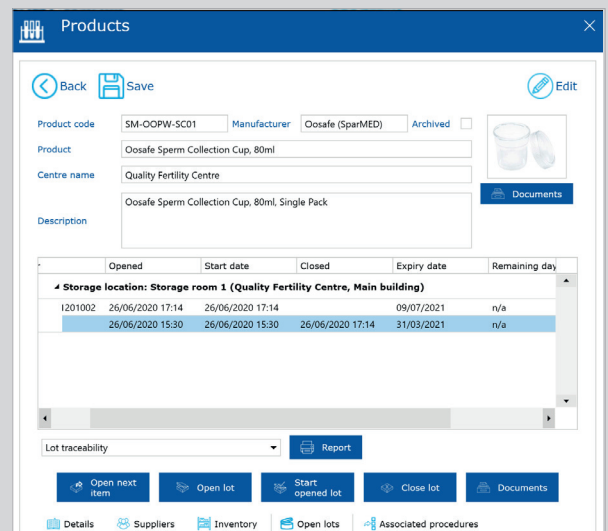
- All data auditable in real-time e.g. dashboard showing every patient who came into contact with a specified lot

Time saving

- Saves time in capturing, reporting and auditing lot information

Compliance

- Enables easy compliance with your competent authority traceability requirements e.g. EU Tissues and Cells Directive



Unlike other systems, Matcher offers a choice of devices giving users the flexibility to use handheld Pocket Matcher devices to photograph and read every product lot barcode

Insights & Reporting

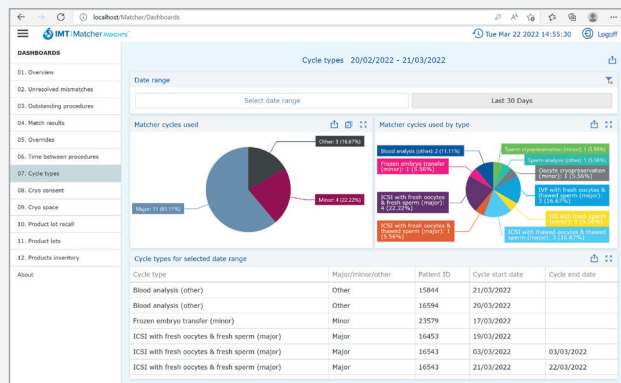
As a patient moves through the cycle of treatment, Matcher records the 'who, what, where and when' of each witnessing step as well as the product lots coming into contact with patients, gametes and embryos.

All information is recorded in the database and can be retrieved very quickly and easily at the click of a button using the Insights and reporting functionality. This can be used for both internal and external auditing as well as supplying complete photographic reports to patients.

Matcher Insights™ is an interactive data dashboard for the visualisation, analysis and reporting of data captured by Matcher.

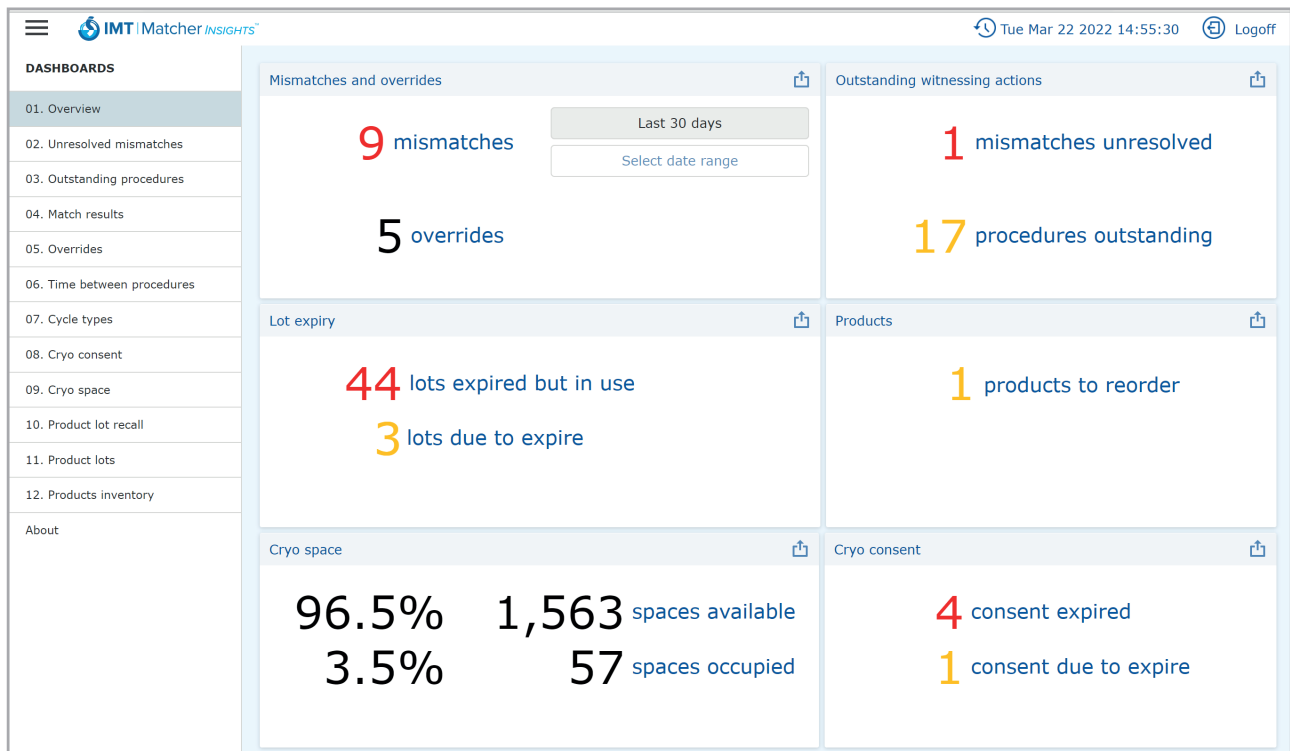


- ▶ identify inefficiencies
- ▶ provide instant insights on items needing action
- ▶ inform root cause analysis
- ▶ assist compliance
- ▶ enhance quality management
- ▶ visualise trend outliers and anomalies
- ▶ satisfy requests from competent authorities more efficiently



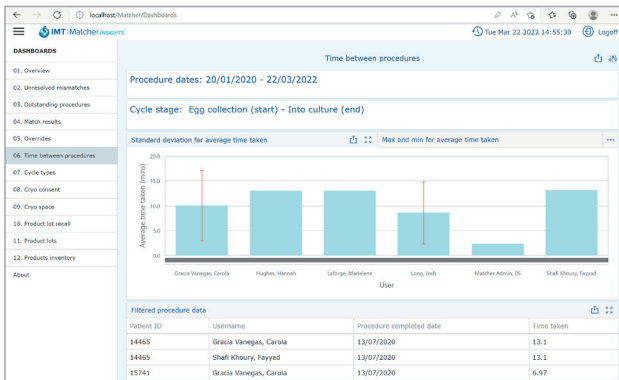
How many cycles of each type have we performed?

What is the current state of activity in my fertility centre?

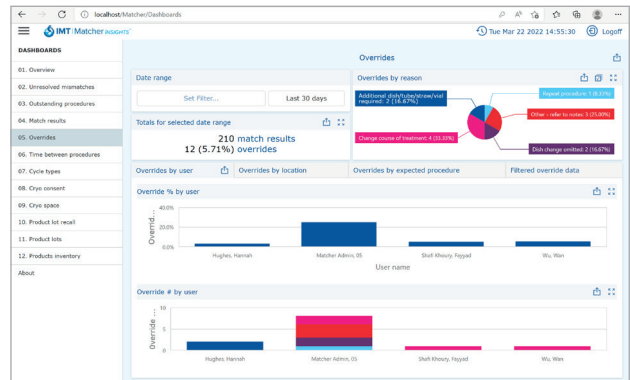


Interactive data dashboards

Is **practitioner A** performing tasks faster than **practitioner B**?



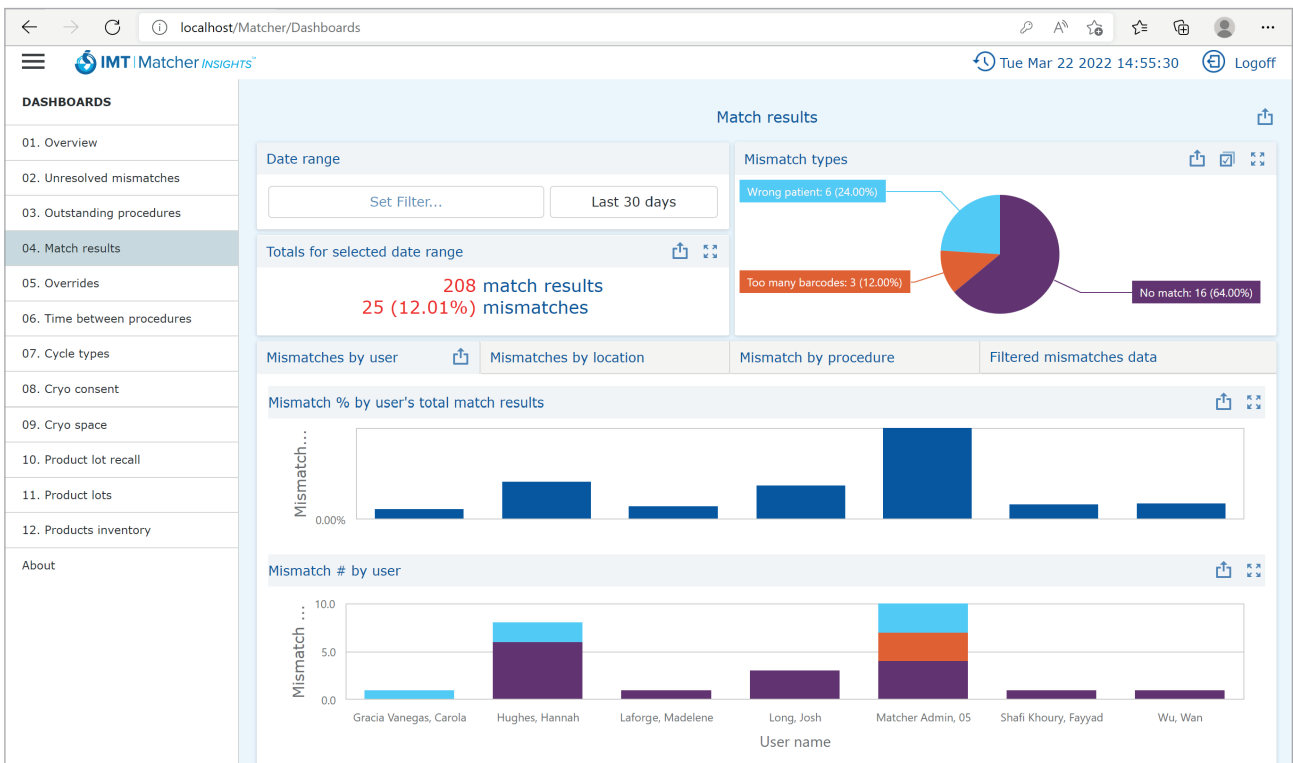
How often are we **deviating from our SOP**?



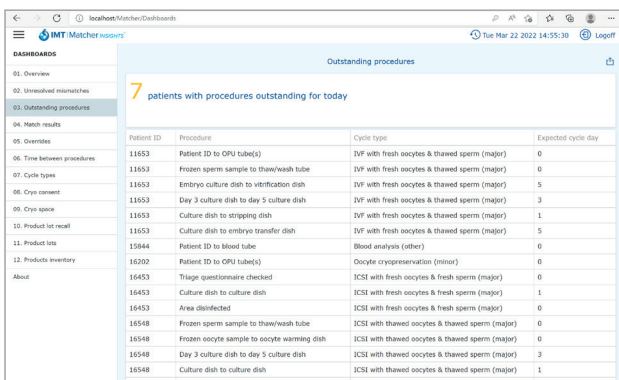
How many **errors** have we made?

Where did we make the errors?

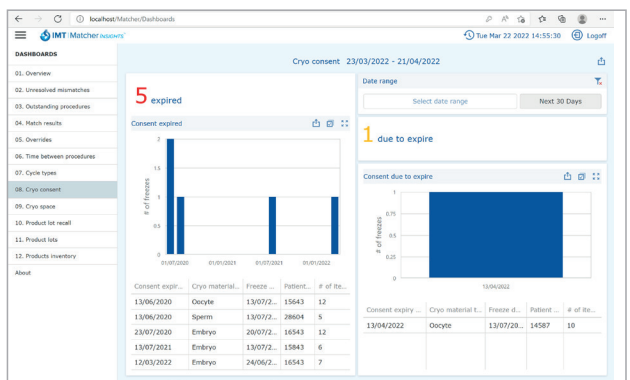
Who made the errors?



Have we **finished all the tasks** that were planned for today?



Are we **storing material with lapsed consent** and do we need to renew consent?



Unlike other systems, **Matcher's interactive data dashboards** can assist clinics to identify anomalies and outliers helping to improve efficiencies within a centre and across fertility groups

Customised Service



Training

As part of implementation, we provide full training for users and administrators of the system.

We have a full suite of e-Learning modules tailored for users' job roles and every user's learning journey is tested and monitored.

There are online user guides and help functionality available from within the software.

Matcher in your language

Matcher is fully translated into more than 8 languages already and is able to be translated into any other, so it makes it easy for our customers to use Matcher in their own language.

Product Development

At Matcher we have a continual programme of in-house product development as well as feeding-in specific customer requests and rapid response to changing industry dynamics.

Technical Support

Responsive - We commit to providing the highest levels of service and responsiveness, whatever time of day or week, with expert support provided by our trained distributors and expert support engineers.

Uptime - The system is modular and has back-up built-in to ensure that you have no downtime while you wait for support

No extra cost - We don't charge you extra for service and support.

Our commitment - Our service and support is simply the highest standard, every time - just ask our customers.

“*The Matcher service and support has always been fantastic, with fast response times from the support team and knowledgeable input from the product expert team - all contributing to making our Matcher experience really positive.*”

Kimberly Kienast
Head of IVF and Andrology Laboratory, MVZ Fertility Center
Hamburg

IMT Matcher are independent specialists in electronic witnessing and traceability. Our expert team are continually developing the Matcher system to meet and exceed our customers' individual needs around the world

Clinic: Dominion Fertility, VA
Country: USA
Name: Gerry Celia, PhD, HCLD
Position: Laboratory Director
Matcher customer since: June 2013



Why did you want an electronic witnessing system?

With an ever-increasing patient load, and new employees to train, it is entirely too easy to become overwhelmed. We were looking for a system to help reduce the risks of mistakes in the clinic, all the while providing a permanent record that gave our patients the confidence they desired.

How did you decide on Matcher?

I was initially drawn to Matcher because it was risk free (no upfront cost to us), it solved numerous issues for us – uniform labelling, double identification, witnessing, batch tracking, cryo tracking, inventory – and the optical nature of the witnessing ensured a visual record for our patients.

What sealed the deal for us was the employees. These are people who are clearly working to provide the best possible product for us and our patients.

What were the main benefits of Matcher?

Matcher replaces the need for human double verification, while ensuring that the appropriate checks take place at each step. Matcher's photo evidence is a huge advantage. We can pull up the photos and prove that the correct work was performed every time.

Have you seen savings?

As our clinic has grown we have truly come to appreciate the security and time savings offered by the Matcher system. Because there is no capital cost and the fees are per cycle, we have been able to demonstrate significant cost savings from day one.

How does Matcher fit with your IT systems?

Matcher links seamlessly with our existing database, saving us more time and further reducing the risk of mistakes.

How do you find the Service & Support?

What sets Matcher apart is their unrivalled customer service and responsiveness. They custom-designed the Matcher system around our work, and are always looking at ways to help us and enhance our experience.

What else impressed you?

Matcher was quick and easy to install, and totally customisable.

What do your patients think?

Matcher ensures that no mistakes are made, all while providing a permanent record that gives our patients the confidence they desire.

Overall comments

The Matcher system provides us with extra confidence throughout the day, and is a great way of capturing and permanently recording important information.



IMT Matcher™ is a product from
Matcher Technologies – developing and
providing innovative IVF management
technologies and quality management
systems to the ART industry worldwide



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