# astraia

## software for women's health

# astraia - software for women's health

**With astraia.software we have been offering our international customers a cutting-edge OB/GYN software for more than 20 years. We are supported by leading experts from all over the world to guarantee a comprehensive, practical and efficient documentation of the examinations based on the latest knowledge and standardized terminology in around 20 languages.**

astraia.software consists of multiple clinical modules for different areas. Due to the modular structure, you can combine the modules according to your individual requirements and extend them with useful add-ons such as image and measurement data transfer. Every solution, no matter in which combination, contains helpful tools, functions and features. Our support team offers you fast assistance via a hotline or remote support.

astraia.software is certified as medical device (class IIa and IVD). We participate in an annual audit and are certified according to ISO 13485.

Our clinical modules astraia.obstetrics and astraia.gyn offer comprehensive solutions for routine examinations, while astraia.fetale-cho, astraia.neurosono, astraia.delivery, astraia.colposcopy, and astraia.breast cover specialized areas.

# Focus on female, maternal and fetal health
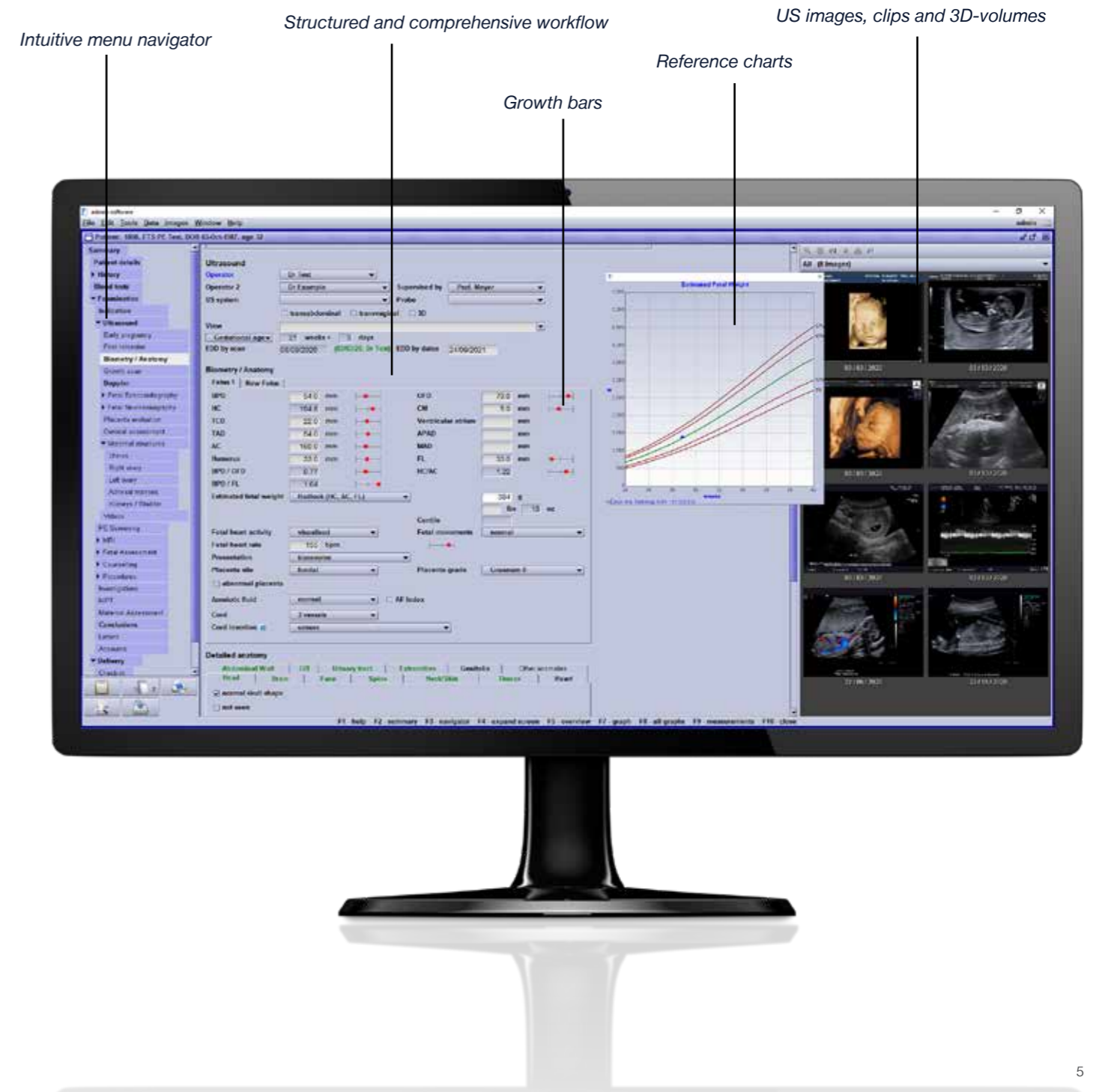
*Screening.Assessment.Management*

# astraia.obstetrics

**astraia.obstetrics has been developed in close cooperation with leading clinicians and scientists to provide obstetricians the best possible tool for prenatal diagnostics.**

This module allows you to precisely monitor the fetal and maternal health from early pregnancy assessment through to delivery and birth outcome. The well-structured and intuitive screens facilitate an efficient documentation of different examination types such as sonography of fetal and maternal structures, doppler ultrasound, invasive and non-invasive procedures, as well as laboratory and genetic tests. Choose which formulas and populations-specific charts from numerous up-to-date peer-reviewed articles you want to use calculate and visualize your measurement results. Extensive help files can be called up directly in the context of the examination.

astraia.obstetrics contains the latest FMF risk algorithm (FMF 2018) that was developed in close collaboration with the Fetal Medicine Foundation (FMF) London. It calculates risks for Trisomy 21, 18 and 13, intrauterine growth restriction, and preterm delivery in the first trimester, as well as the risk for pre-eclampsia in all three trimesters.

## Your benefits at a glance

+ Monitor and document the whole pregnancy from early assessment through to birth outcome

+ Benefit from comprehensive screens with an intuitive workflow that allow to efficiently perform complete ultrasound examinations of fetal and maternal structures, growth scans, doppler ultrasound, placenta evaluation, cervical assessments and other examinations

+ Assess the fetal risks for trisomy 21, 18 and 13, pre-eclampsia, intrauterine growth restriction, and preterm delivery with the latest FMF risk algorithm

+ Report results from invasive and non-invasive (i.e. cf DNA testing / NIPT) procedures, laboratory tests and genetic analyses

+ Make use of numerous up-to-date population specific charts and formulas from peer-reviewed articles to track the fetal development

+ Generate well-structured reports with a few clicks using predefined templates for all major exam types

*Intuitive menu navigator*

*Structured and comprehensive workflow*

*US images, clips and 3D-volumes*

*Reference charts*

*Growth bars*

# astraia.fetalecho

**The astraia.fetalecho module has been designed by and for specialists in this area in order to provide an expert tool to systematically assess the fetal heart.**

A clear menu navigation assists you in the step-by-step examination and documentation of the cardiac morphology, biometry and doppler. Based on the entered structural findings, the software provides suggestions for further biometric measurements and doppler examinations. As for other astraia modules, integrated help files give access to measurement instructions. Your measurement results and deviation from reference data can be displayed graphically as charts and integrated with a few clicks in well-structured patient reports.

The astraia.fetalecho module can be integrated into astraia. obstetrics or chosen as a separate standalone entity.

## Your benefits at a glance

+ Use this expert module to systematically document in detail cardiac morphology, biometry and doppler

+ Based on the entered structural findings, the software supports you with suggestions for further biometric and doppler examinations

+ Graphically represent your measurements with up-to-date reference charts from peer-reviewed articles

+ Generate a well-structured report with a few clicks

*Morphology, biometry and doppler screens*

*Structured documentation*

*Suggestions for further examinations*

# astraia.fetalneurosono

**The astraia.fetalneurosono was developed in close collaboration with specialists in fetal neurosonography to provide an expert tool for a detailed assessment of the fetal brain.**

A well-defined workflow with prompts allows you to systematically document the fetal brain morphology and cephalic biometry in order create precise diagnoses. Get support from help files give that give immediate access to measurement instructions. Moreover, a variety of charts from peer-reviewed articles allows you to visualize cephalic biometry in the context of reference data. Well-structured patient reports containing all information including history, findings and diagnosis can be easily generated with a few clicks.

The astraia.fetalneurosono module is an extension of the astraia.obstetrics module.

## Your benefits at a glance

+ Use this expert module to document step-by-step brain morphology and cephalic biometry

+ Display your measurement results graphically with up-to-date charts from peer-reviewed articles

+ Generate easily a well-structured report containing all relevant data

*Morphology and biometry screens*

*Interactive prompts*

*Image gallery*

# astraia.delivery

**In close cooperation with experts in perinatal diagnosis and assistance, the astraia.delivery module has been designed to support medical personnel best through their work while keeping up with all necessary documentation and preparing a complete report without great effort.**

The well-structured tabular presentation makes it easy to document and follow-up all essential phases, events and findings during delivery at any moment, such as labour induction, rupture of membranes, labour, delivery, caesarean, placenta delivery, perineum, medication and complications. In addition, a separate screen for postpartum events is available to record information about mother and child for discharge.

**NEXUS / WOMEN'S HEALTHCARE**

In cooperation with other NEXUS branches, we are proud to offer an extensive solution for delivery units of all sizes. In addition to the sophisticated astraia.delivery reporting module there are several add-ons available to round up a complete solution to monitor and support the whole delivery process from first signs of labor through to birth.

## Your benefits at a glance

+ Document in detail all phases of delivery from antenatal assessment through early signs of labour to delivery and outcome

+ Easily structure all information about the different events of the delivery

+ Include postpartum events of mother and child as part of the complete documentation

+ Generate without great effort a well-structured report containing all important information about labour, delivery and postpartum events

*Elaborate screens for different phases and events*

# NEXUS / WOMEN'S HEALTHCARE

## NEXUS / CTG MONITORING

The NEXUS / CTG MONITORING offers a stable and scalable system architecture, simple operation, clear and unambiguous presentation of information as well as full integration into the obstetric documentation.

+ Overview of all running CTGs, automatic assessment and analysis

+ HL7 interface to all common HIS systems, hardware independent

+ Alert for maternal parameters

+ Extension by CTG / Overview[APP]

## NEXUS / PARTOGRAM

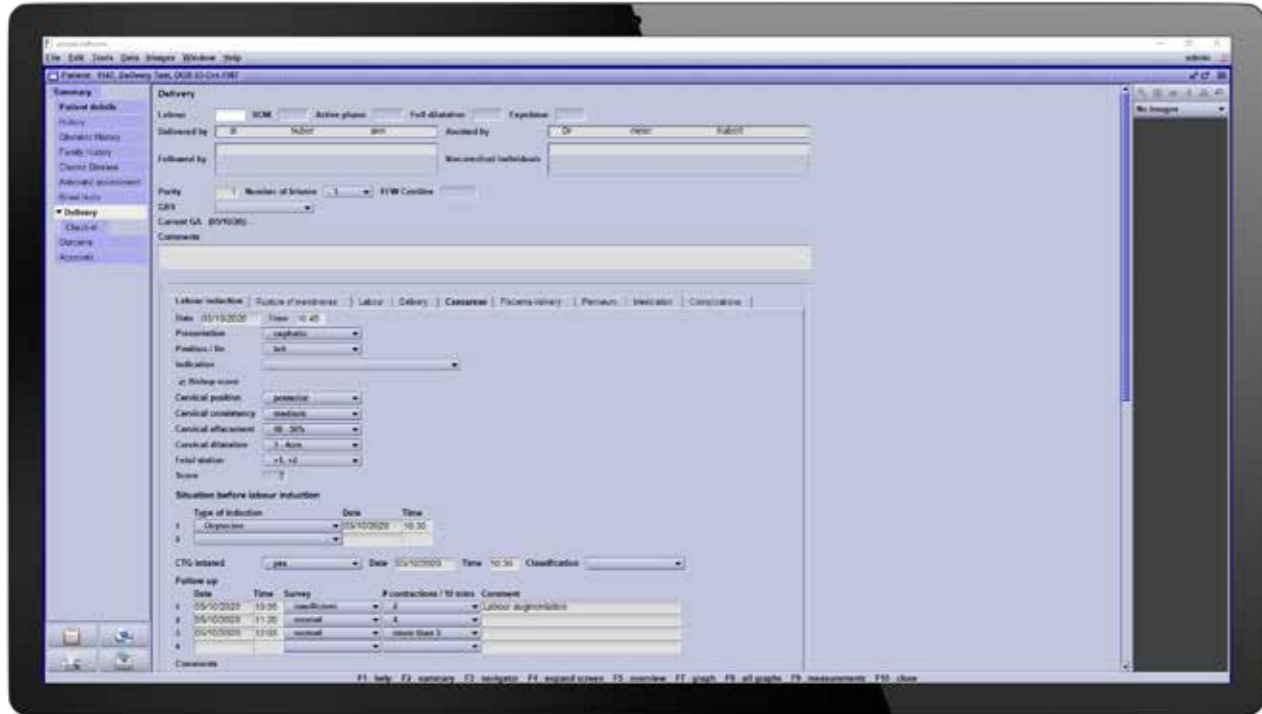The NEXUS / PARTOGRAM add-on supports physicians and midwives in documenting the birth process.

+ Graphic input and display of tactile findings

+ Display of medication administration, infusions, vital parameters, notes and other freely definable findings on the time axis

+ CTG assessment across partogram and CTG monitoring

## NEXUS / WARD CHART

For a comprehensive overview of your patients in the delivery room area, the delivery room dashboard of NEXUS / WARD CHART is available to you. The most important information of the selected patients is constantly displayed on the dashboard.

+ Tabular overview of the current delivery room / ward occupancy

+ Presentation of data already recorded in other documentation areas

+ Additional input option for various findings

# astraia.gyn

**The astraia.gyn module was developed together with leading clinicians in order to cover all aspects of gynaecological health and to provide a comprehensive tool for the daily work in the clinic.**
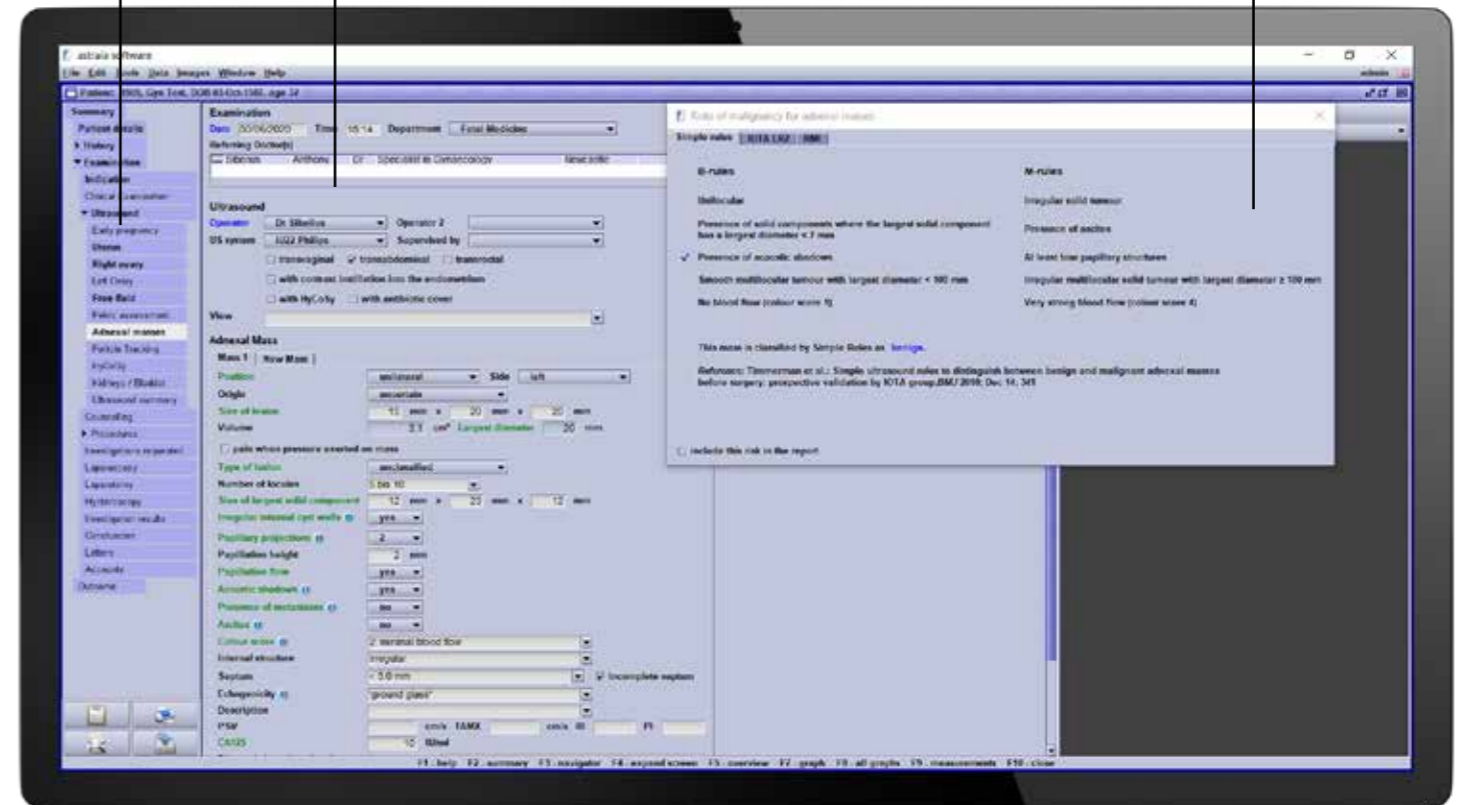
Benefit from comprehensive screens for the examination of early pregnancies, maternal structures including the uterus, ovaries, adnexae, bladder and kidneys as well as endoscopic procedures such as laparoscopy, laparotomy and hysteroscopy to gather all relevant information. Moreover, you can report the results of gynaecological procedures including cervical smear, endometrial biopsy, implant, cyst aspiration, IUCD insertion, infections, ERCP and follicle tracking.

The integrated risk calculation for malignancy of ovarian tumours is implemented according to the International Ovarian Tumour Analysis (IOTA) guidelines. astraia has supported the IOTA study screens for more than 10 years. Expert instructions and referral images help the decision for staging, but also can serve as training material for junior doctors and students.

*Comprehensive screens for different examinations*

*Structured workflow*

*IOTA risk algorithm*

# astraia.colposcopy

The astraia.colposcopy module was specifically designed for colposcopic examinations. The clear step-by-step menu navigation helps you to efficiently report and evaluate the results while performing the assessment. The comprehensive screens allow to systematically document all relevant data such as history, referral information, findings, treatments, results and outcome.

Moreover, it is possible to illustrate the findings with the integrated drawing tool. All data including images can be easily presented in a structured report and send to the referring doctors.
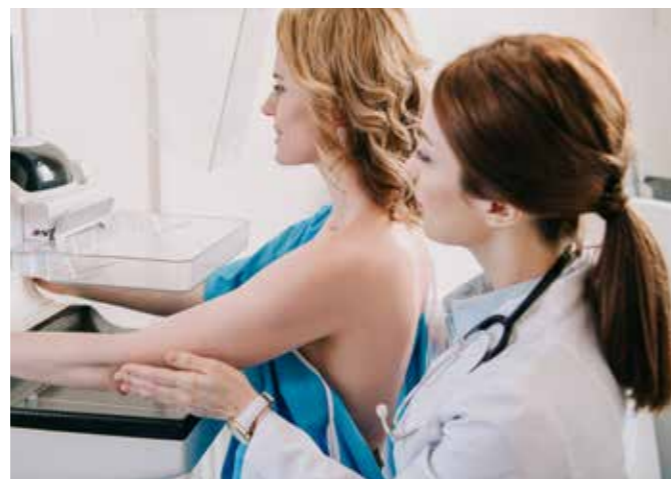
# astraia.breast

The astraia.breast module offers you a comprehensive tool for different types of breast examinations and their evaluations. A specific screen helps you to assess the medical history in detail with the possibility to even visualize the family's history in a pedigree. The findings of palpation, mamma sonography, X-Ray- and magnetic resonance mammography (MRM) as well as invasive procedures can be documented in specialized screens. Moreover, you have the possible to draw the clinical findings and include them in the well-structured examination report.

The terminology of astraia.breast is consistently based on the BI-RADS classification. MRM examinations include the Göttinger-Score-System.

Please note that this module is currently only available in German and Greek.

# Integrated Solutions with astraia.connect

Astraia.software has been installed in more than 70 countries. The requirements for integrating the software into existing IT infrastructures are very different in each region and even each customer. Clinics have far more complex requirements than practices.

NEXUS / ASTRAIA has been using the NEXUS Integration Server for data interfaces since 2021, specially adapted as astraia.connect. This allows any interface solution to be flexibly configured and monitored in daily real operation.

The highly flexible interface solution astraia.connect support all commonly used data formats and communication protocols like HL7, XML, FHIR, DICOM and many more.

## HIS System Integration

With astraia.software and NEXUS / WOMAN HEALTH CARE, we want to support our users with optimal workflows - and avoid double entries and system breaks at the IT level.

The prerequisite for this in clinics is the optimal integration of our special software into the existing HIS environment. That's what we stand for. With astraia.connect we bring powerful interface technology from the NEXUS group portfolio, which we can use to connect to all common healthcare data formats.

We integrate our software flexibly and efficiently into your system as part of the project - with manageable costs and without any programming effort. Your IT colleagues will be delighted.
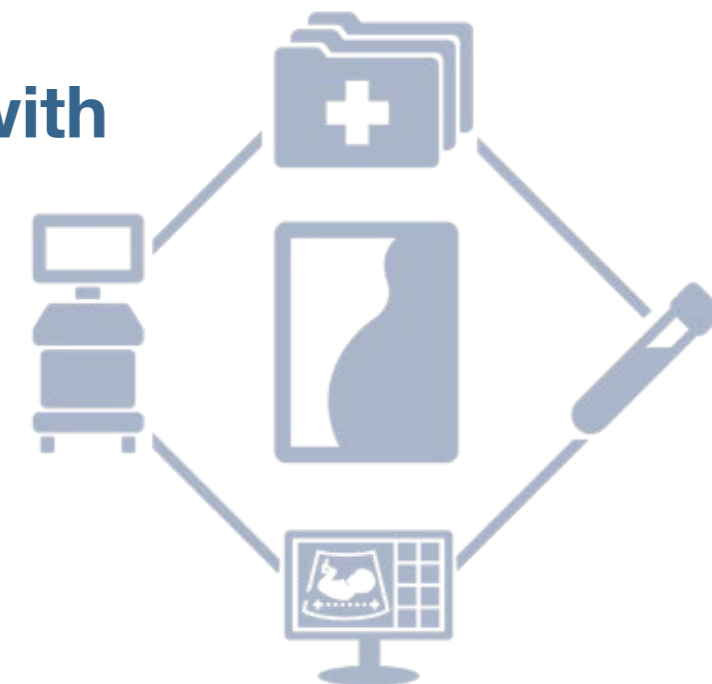
## PACS and VNA Systems

In pregnancy and gynecological diagnostics, more and more ultrasound images and videos are being recorded. A sophisticeted Picture Archiving Systems (PACS) or Vendor Neutral Archives (VNA) is a must to store them for later comparisons and follow-up examinations in a secure manner and for the legally required retention period.

With astraia.connect we offer the appropriate interfaces to existing archive solutions. A separate PACS solution can be useful in larger NEXUS / ASTRAIA installations. Then the NEXUS / CHILI PACS as an astraia software add-on is often the best solution.

## LAB System Integration

Astraia.software requires certain laboratory values for the innovative risk algorithms of the FMF UK; PAPP-A, beta-hCG, PIFG and AFP, to name just a few. These laboratory results are not only transferred digitally via an existing laboratory information system (LIS) using astraia.connect. Under certain system requirements, it can also be useful to collect the laboratory results directly from the laboratory analysis device or from its middleware.

It is important to know that the laboratory results are not only transferred and stored digitally in astraia software for documentation purposes. For use as an input variable for special risk classifiers (trisomy 21, 18, 13, fetal growth restriction, preeclampsia and many more) based on complex probability distribution functions, the measured values of these devices are carefully calibrated by astraia software depending on the manufacturer and device.

NEXUS / ASTRAIA offers the right interface technology for all relevant laboratory information systems and laboratory services. With a special interface for direct connection, we currently support the most commonly used analysis systems from Thermofisher, Perking Elmer and Roche.

## Ultrasound Device Integration

Astraia.software can swiftly integrate with any US machine model which is DICOM 3.0 compliant. This means that Astraia can receive images, videos, volumes, measurements and manage the Worklist for practically any modern US machine in the market. Astraia is not limited by model or brand, thanks to the integrated mini PACS Astraia can allow transfer of common DICOM objects used during Ultrasound examination without any external system such VNA or PACS. The Astraia Viewer can then allow to display the images, videos and volumes, and apply further measurements and other useful drawing, including text and adjustments to brightness and color. The Astraia Viewer is also available when integrated with the local VNA or PACS.

# INTEGRATED TOOLS, FUNCTIONS AND FEATURES

## Languages

**On the fly switch to more than 20 languages**
With over 200 medical translators worldwide, we guarantee uniform and standardized terminology in around 20 languages. Importantly, astraia provides an on the fly switch during the examinations of languages to support multilingual environments. The selection of a country specific language is linked to localized versions that contain special screens in order to meet local requirements.

## Charts

**Up-to-date charts and formulas from peer-reviewed articles**
Over 400 charts from peer-reviewed articles are currently integrated in astraia to graphically represent your measurements in the context of reference data. Moreover, you can decide which published formula you want to use for calculations such as the determination of the estimated fetal weight (EFW).

## Reports

**Well-structured patient reports**
A set of templates are available for all major exams in order to generate structured and well-represented patient reports within a few clicks. The reports are customizable, allowing to add your personal letter header or images, charts, drawings and other data. They can be printed and shared with colleagues by e-mail, fax or internal network.

## Help files

**Immediate access to extensive help files**
Sophisticated info buttons and help files give immediate access to medical information, measurement instructions and guidance through examinations. In the comprehensive manual you find all information about the product and how to use the software. Proposed by our medical advisors, they are a great source of medical expertise and learning tool for students and junior doctors.

## Audit

**Automated audit tool for internal and external quality control**
astraia contains an automated build-in audit tool for first trimester audit, second trimester audit, as well as FMU- and EPU statistics. The audits can be run in defined time ranges for a whole centre or for each individual sonographer separately. Its primary purpose is the quality control of the most relevant measurement parameters, but can be also used to assess training efficiency or training need.

## Data analysis

**User-friendly query tool for deep analysis of your data**
The integrated query tool offers a library of predefined queries for quality control and common tasks. In addition, a user-friendly interface allows you to create your own queries and organize them in categories in just a few steps even without special IT knowledge. Those custom queries can be easily exported and shared with your colleagues. The query tool is therefore also a convincing instrument for multi-centre studies and quality control.

## Diary

**Integrated diary and reminder tool**
Patient appointments in different rooms and departments can be simply organized and co-ordinated with the sophisticated diary tool. Moreover, a reminder function helps you and your team to highlight tasks and memos.

## Customizable

Given that astraia is tailored for the daily use in the clinic, we designed our product to allow a great deal of screen customizability by the end-user without any IT knowledge. You have the possibility to easily configure lists directly in the main application by adding your own entries and defining if elements should be set as default, highlighted or hidden. Moreover, with the powerful screen configuration tool we provide a user-friendly interface to allow screen modification such as changing labels as well as adding new fields (text field, number field, checkbox, list, date field and comment) at a given position.

## NEXUS / ASTRAIA GmbH

NEXUS / ASTRAIA develops and distributes software solutions for healthcare professionals in Obstetrics and Gynaecology. Due to its modular structure it can be tailored individually to each customers needs. From private doctor's offices, small to large hospital units or laboratories, for each use case we offer the right solution.

# nexus | astraia