

Advanced Technologies Committee

Bert van Duijn

June 23, 2026





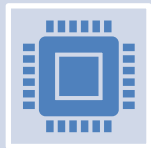
ISTA ATC
Seed Quality Assurance



To form a bridge between the world of research and development, and ISTA's other Technical Committees.



To collect and interpret data and opinions on 'advanced' technologies.



To provide information on advanced technologies to the ISTA community.



To chair or participate in research and tests of advanced technologies in cooperation with other Technical Committees and/or act as reviewers.



To assist ISTA by formulating views of ongoing or future technological developments from a seed testing perspective.

ATC: Advanced Technologies Committee

Aims

15 Members from 11 Countries



ISTA ATC
Seed Quality Assurance



- Bert van Duijn (NL), chair
- Francisco G. Gomes Junior (BR), vice chair
- Ganesh Kumar (USA), vice chair
- Devaraja Achar A.M. (IN)
- Birte Boelt (DK)
- Sebastian Bopper (GER)
- Henry Bruggink (NL)
- Aurélie Charrier (FR)
- Giovanni Lopez (NL)
- Mailén Ariela Martínez (AR)
- Kyle Peterson (USA)
- Victorio Costa (AR)
- Nikolay S. Priyatkin (RU)
- Tomoko Sakata (JP)
- Zhujun Zhu (CN)

Ecom liasons:

Craig McGill

Ruojing Wang

Tcom manager:

Nadine Ettel

 **ISTA**
ANNUAL MEETING
2026



ISTA ATC
Seed Quality Assurance

Current working groups

- **X-ray based technologies + X-ray data-base establishment**
 - **2D X-ray**
 - **3D X-ray**
- **(Multi spectral) Imaging**
- **(Mathematical) Modelling in seed testing (with STA & MOI)**
- **Molecular Technologies**
- **Sustainability in Seed Testing**
- **Exploring central depository for images of Physical Purity (with STA, Ecom members).**
- **Practical guidelines for image analysis (with PUR, STA, GER, VIG).**
- **Workshops/ seminars**





Guideline
Advanced Technology Applications for Seed Testing
Computer vision

Any hardcopy of this document is not controlled copy

CREATED	REVIEWED	APPROVED
19.12.2024	FEBRUARY 2025	02.05.2025
ATC, PUR, GER, VIG, STA, PTC	ISTA ACCREDITATION AND TECHNICAL DEPARTMENT, ECOM	ECOM

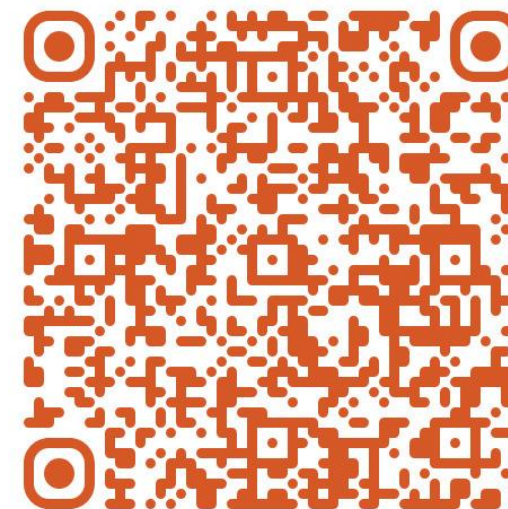
Practical guidelines for image analysis

SCOPE

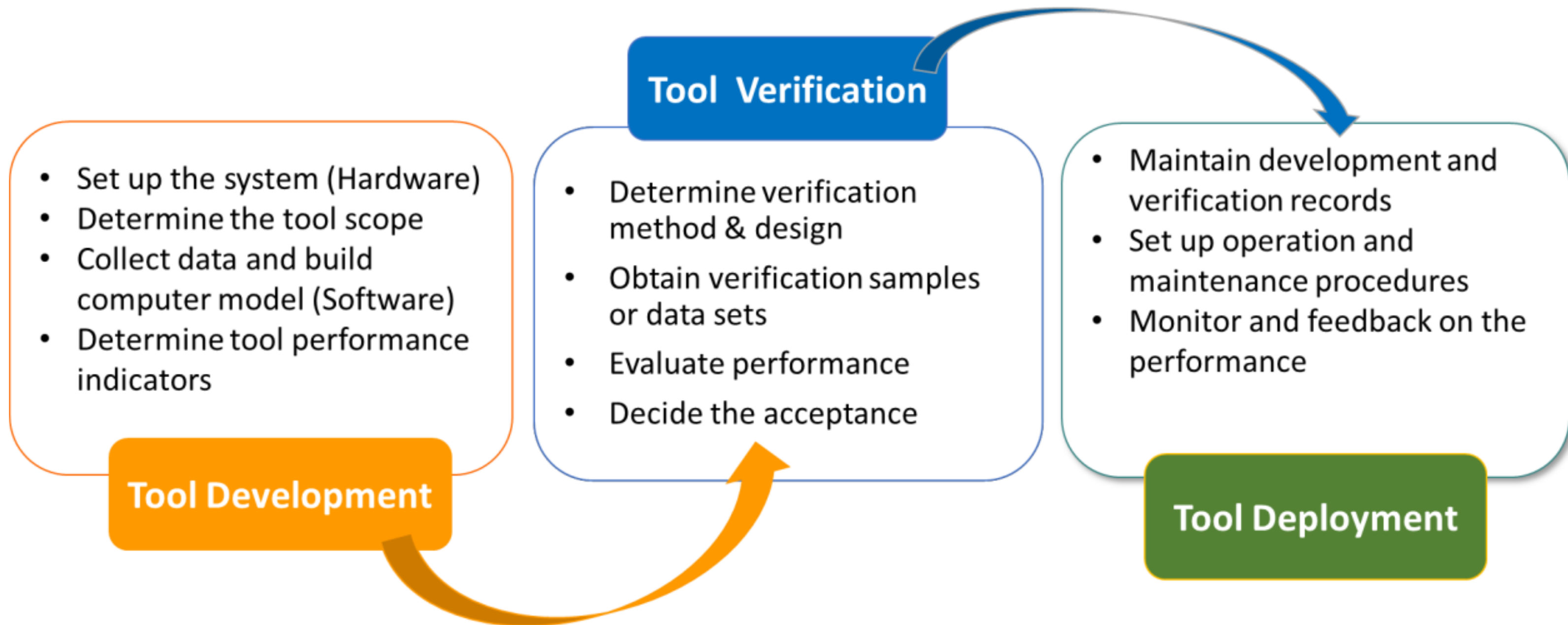
The scope of this document is to assist the ISTA accredited laboratories in applying advanced technologies in seed testing and to establish common expectations, benchmark quality and provide best practices to meet the principles of the ISTA Accreditation Standard.

OBJECTIVES

Produce an operational guide or advice for the development, verification, and application of computer vision (equivalent to analysts) tools in seed testing, such as computer classification of seeds in purity analysis, other seed determination (OSD), seedlings in germination test, or seed in varietal purity analysis.



Development and verification



Co-production: ATC, STA, PUR, VIG, GER, PTC, Accreditation

ATC related activities in the annual meeting

Tuesday June 23 in Britannia (today in this theatre)

16.15- 17.30

Modelling in Seed Testing: A.I. and more.
ATC and STA open seminar/forum

17.30- 18.00

Image sharing consortium: update

Modelling in Seed Testing: A.I. and more. ATC and STA open seminar/forum

Tuesday June 23, 16.15- 17.15 in Britannia

- 16.15-16.30 **A.I. models and seed testing: how does it works and what are the (statistical) pitfalls.**
Thomas Michelon (STA)
- 16.30 – 16.45 **Application of the ISTA Guideline for “Advanced Technology Applications for Seed Testing”:
a case on other seed determination.**
Victorio Costa (ATC)
- 16.45 – 17.00 **Use of Germination curves in ISTA tests.**
Sebastian Bopper (ATC)
- 17.00- 17.30 Discussion: **The use of A.I. (chat-)tools in seed testing: design and result analysis**
Ruud Barnhoorn (SHC), Erik van Egmond (GER), Jean Louis Laffont (STA)
Bert van Duijn (ATC), Kirk Remund (STA)

Workshops

ISTA ATC Workshop on Seed Image Analysis

27 - 29 May 2026

Rødvig Kro & Badehotel, Denmark

ISTA ATC Workshop Imaging Technologies for Seed Testing

20–22 October 2026

Buenos Aires, Argentina

ISTA ATC Workshop on Seed Image Analysis

27 - 29 May 2026

Rødvig Kro & Badehotel, Denmark

30 participants from 12 different countries: Brazil, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, The Netherlands, Norway, Sweden and Switzerland.

Aim of the workshop:

To introduce multispectral imaging for seed quality assessment, present the current status and discuss its future potential for use in other seeds determination and purity determination

Workshop content:

Participants will acquire hands-on experience with multispectral imaging and be introduced to other imaging technologies. There will be small training sessions where participants will use commercially available equipment to build test sessions to distinguish between small samples of weeds versus crop seeds. Use cases in seed companies will be presented and we will discuss potential and pitfalls for the introduction of new technologies in seed quality assessment and regulation.



ISTA
Seed Quality Assurance

ISTA ATC Workshop on Seed Image Analysis





ISTA
Seed Quality Assurance

ISTA ATC Workshop on Seed Image Analysis



**ISTA ATC Workshop
Imaging Technologies
for Seed Testing**
20–22 October 2026
Buenos Aires, Argentina

More info and registration
at ISTA website :



Thank you