

# The Dutch approach on risk assessment: tool and process

SMEs: IT tool and sector approach  
Gerard Reinders and Arie in 't Veld

**TNO** | Kennis voor zaken



Gerard Reinders, Arie in 't Veld

# Who is who

- Gerard Reinders
  - Division manager Knowledge Transfer
  - Overall project manager Risk Assessment
- Arie in 't Veld
  - Team manager Information Management
  - IT-project manager Risk Assessment

# Employers obligations on Risk assessment

- Assess the occupational safety and health risks in a systematic way
- Combat the risks at source
- Define measures
- Produce a plan
- Implement the plan

# Stone Age Risk assessment tools

- Piles of paper
- Text ... text .... text ... and more ..... text
  - Example: “Inspection Plus Package” for labwork: 212 pages! Produced by TNO
- Too generic, not tailor made for employers
- Limitations in extra functions and/or information
- Perceived by employers as excessive administrative burden



# Digital risk assessment

- Checklists with additional information if needed
- Tailor-made through so called filter questions
- Automatic generation of to do lists and plans of **measures**
- Inclusion of top priority risks in branch
- Best available techniques offered to combat the risks
- Connection possible to solutions database ('OSH Catalogue')
- Built-in risk evaluation
- At the moment, downloaded by 5.000 SME's every month

# Building the tool, using TNO Smartbox (CMS)

WizKit beheeromgeving []

Template Zoeken

Model **Thema's** Profielen Aggregatie niveau's Rapportage's

Thema [ ]

Context: **Company** Titel: 8. Noise

Algemeen **Vragen/Stellingen** Conclusies

Eén voor één Vraag/Stelling Antwoord alternatief Maximale score: 150.0

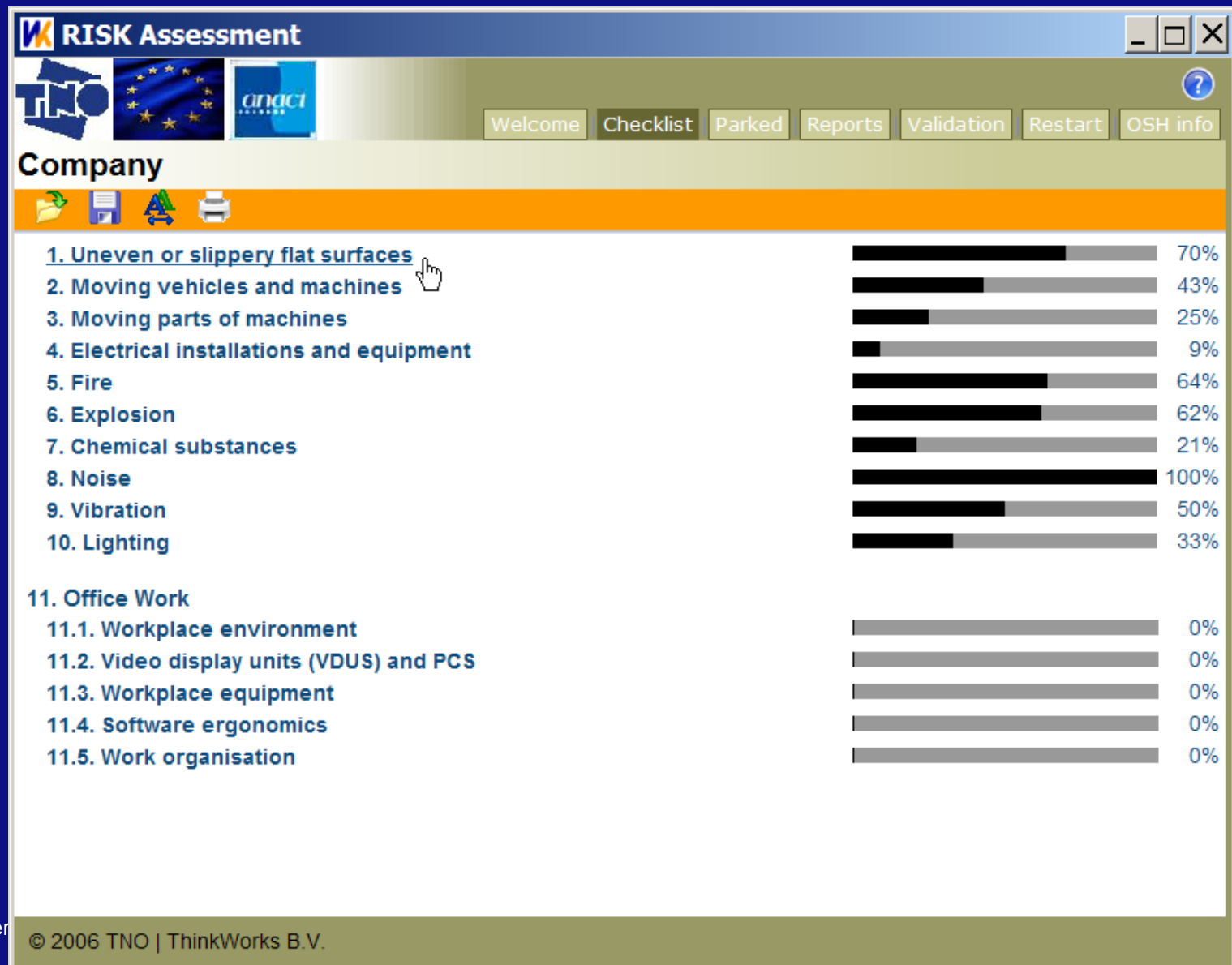
nr	nummer	vraag/stelling	type	antwoord	score	weging	n.v.t.	weet niet	stellen
1	8.1	Can high noise levels arise as a result of work processes (e.g., metal-on-metal impact, engines)?	tekst	yes no	0 1	50	<input type="checkbox"/>	<input type="checkbox"/>	
2	8.2	Can high noise levels arise as a result of ambient noise which penetrates buildings?	tekst	yes no	0 1	20	<input type="checkbox"/>	<input type="checkbox"/>	
3	8.3	Can operating noise mask alarm signals?	tekst	yes no	0 1	10	<input type="checkbox"/>	<input type="checkbox"/>	
4	8.4	Is the noise so loud that you would have to raise your voice to talk to people at your workplace?	tekst	yes no	0 1	50	<input type="checkbox"/>	<input type="checkbox"/>	
5	8.5	Do you unintentionally raise your voice when you talk to people after leaving your workplace?	tekst	yes no	0 1	20	<input type="checkbox"/>	<input type="checkbox"/>	

Thema's

- 1. Uneven or slippery flat surfaces
- 2. Moving vehicles and machines
- 3. Moving parts of machines
- 4. Electrical installations and equipment
- 5. Fire
- 6. Explosion
- 7. Chemical substances
- 8. Noise
- 9. Vibration
- 10. Lighting
- 11. Office Work
  - 11.1. Workplace environment
  - 11.2. Video display units (VDUS) and PCS
  - 11.3. Workplace equipment
  - 11.4. Software ergonomics
  - 11.5. Work organisation

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# Checklist, overview of topics and progress



# A certain question can filter out (hide) subsequent questions ...

The screenshot shows the 'RISK Assessment' software window. The title bar reads 'RISK Assessment'. The interface includes logos for TNO, the European Union, and anact. A navigation menu contains buttons for 'Welcome', 'Checklist', 'Parked', 'Reports', 'Validation', 'Restart', and 'OSH info'. Below this is a 'Company' section with icons for a folder, a document, and a person. The main content area is a table with the following structure:

8. Noise			
8.1	Can high noise levels arise as a result of work processes (e.g., metal-on-metal impact, engines)?	<input type="radio"/> yes <input checked="" type="radio"/> no	<input type="checkbox"/> ⓘ

At the bottom of the window, the copyright notice reads '© 2006 TNO | ThinkWorks B.V.'.



... or activate subsequent questions;  
this view shows all questions within the topic

The screenshot shows a web-based application window titled "RISK Assessment". The interface includes a header with logos for TNO, the European Union, and anact, along with navigation buttons: Welcome, Checklist, Parked, Reports, Validation, Restart, and OSH info. Below the header is a "Company" section with icons for file operations. The main content area displays a checklist for "8. Noise".

8. Noise				
			P	
<a href="#">8.1</a>	Can high noise levels arise as a result of work processes (e.g., metal-on-metal impact, engines)?	<input checked="" type="radio"/> yes <input type="radio"/> no	<input type="checkbox"/>	<a href="#">?</a>
<a href="#">8.2</a>	Can high noise levels arise as a result of ambient noise which penetrates buildings?	<input checked="" type="radio"/> yes <input type="radio"/> no	<input type="checkbox"/>	<a href="#">?</a>
<a href="#">8.3</a>	Can operating noise mask alarm signals?	<input checked="" type="radio"/> yes <input type="radio"/> no	<input type="checkbox"/>	<a href="#">?</a>
<a href="#">8.4</a>	Is the noise so loud that you would have to raise your voice to talk to people at your workplace?	<input checked="" type="radio"/> yes <input type="radio"/> no	<input type="checkbox"/>	<a href="#">?</a>
<a href="#">8.5</a>	Do you unintentionally raise your voice when you talk to people after leaving your workplace?	<input checked="" type="radio"/> yes <input type="radio"/> no	<input type="checkbox"/>	<a href="#">?</a>

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This view shows one question at a time, plus explanation, image, hyperlinks, progress bar

**RISK Assessment**

TNO anact

Welcome Checklist Parked Reports Validation Restart OSH info

Company

### 8. Noise


8.4 Is the noise so loud that you would have to raise your voice to talk to people at your workplace?

yes  
 no

Park question

**Explanation:**

Effective communication is essential in the workplace, whether it is a factory, building site, call centre, or school. Good speech communication (5) requires a speech level at the ear of the listener that is at least 10 dB higher than the surrounding noise level.



[The impact of noise at work](#)  
[Occupational Safety & Health Administration \(OSHA\)](#)

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room for legal references and a box for additional comments in case of special risks

**RISK Assessment**

TNO European Union ANACT

Welcome Checklist Parked Reports Validation Restart OSH info

### Company

requirement for it to be considered specifically in the risk assessment for noise. Noise can lead to accidents by:

- Making it harder for workers to hear and correctly understand speech and signals;
- Masking the sound of approaching danger or warning signals (e.g. reversing signals on vehicles)
- Distracting workers, such as drivers;
- Contributing to work-related stress that increases the cognitive load, increasing the likelihood of errors.



**Legal reference:**

Working Conditions Act, article 7b

[An introduction to noise at work](#)

Comments:  
We will have to pay special attention to ...

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# Questions and answers are shown in a report, which also indicates problem areas

**RISK Assessment**

TNO | anact

Welcome Checklist Parked Reports Validation Restart OSH info

### Company

**Problem needs to be solved.**

8.2 Can high noise levels arise as a result of ambient noise which penetrates buildings?  
*Noise is an unwanted sound; its intensity ('loudness') is measured in decibels (dB). The decibel scale is logarithmic, so a three decibel increase in the sound level already represents a doubling of the noise intensity. For example, a normal conversation may be about 65 dB and someone shouting typically can be around 80 dB. The difference is only 15 dB but the shouting is 30 times as intensive. To take into account the fact that the human ear has different sensitivities to different frequencies, the strength or intensity of noise is usually measured in A-weighted decibels(dB(A)). It is not just the intensity that determines whether noise is hazardous. The duration of exposure is also very important. To take this into account, time-weighted average sound levels are used. For workplace noise, this is usually based on an eight-hour working day.*

yes



Decibel scale showing the intensity level of some familiar sounds.

**Problem needs to be solved.**

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# Automatic Action plan, includes hazards, actions, sorting on priority, updateable status

**RISK Assessment**

TNO | anact

Welcome Checklist Parked Reports Validation Restart OSH info

**Company**

## 8. Noise

### 8. Noise (Company)

Hazard	Actions	Budget	Who	Prioriteit	When	Status
8.1 Can high noise levels arise as a result of work processes (e.g., metal-on-metal impact, engines)? {yes}	Determine workers' exposure; check compliance with the limits established in legal requirements.	eur 1.500	JM	1	21/10/2006 until 21/10/2007	to do
8.4 Is the noise so loud that you would have to raise your voice to talk to people at your workplace? {yes}	Provide appropriate hearing protection (in consultation with employees or their representatives).	eur 999	A.	1	23/10/2006 until 21/10/2007	started
8.2 Can high noise levels arise as a result of ambient noise which penetrates buildings? {yes}	Limit time spent in noisy areas. Action can be COMPLETED by the user him/herself !	eur 888	A.	2	03/10/2007 until 21/10/2008	halfway
8.5 Do you unintentionally raise your voice when you talk to people after leaving your workplace? {yes}	Ensure regular hearing checks for all workers exposed to high level noise.	eur 2.000	JM	3	04/10/2008 until 21/10/2008	nearly done

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# Developments 1989 - 2004

- 1989: Framework Directive on health and safety 89/391/EEC; on stating various employers obligations (Article 9);
- 1992 – 1994: Implementation Framework Directive in Dutch Working Conditions Act;
- 1992 – 2002: *Printed* Risk Assessments tools (guidelines, handbooks etc.);
- 2003: *Digital* ‘Base’ Risk Assessment tool, committed by employer organisation SME Netherlands;
- 2004: Tailor-made digital risk assessment tools for more than 80 industry and service branches, fuelled by “marginal check” for SMEs to obtain Labour Inspection approval.

# The years before 2003

- OHS expert needed for each Risk Assessment
- Only general surveys available, in print
- No tailor-made assessments for sectors and SMEs
- Considered 'obligatory, bad for business'
- High cost, a lot of work, and many registry requirements
- Conflicting OSH and other legislation (e.g. Fire Regulations)

# Risk Assessment, a high potential....

A study “Arbowet in beeld”, ITS 2004

- Companies > 50 staff profit from use of R.A. tools
- Smallest companies (< 10 staff) fall behind, having trouble using available tools and information
- BUT: Risk Assessment and Action Plan prove to set SME Occupational and Health policy in motion!!!!



# Ministry SZW conclusions

- Risk Assessment is an important instrument
- Employers and employees are activated
- BUT
- Downsizing costs (the check) and harmonizing regulations are needed
- Focus on SMEs
- Focus on major risks (Top 5)
- Focus on *solutions*, rather than *information*
- Focus on digital sector instruments



# The Dutch digital practice

- [www.rie.nl](http://www.rie.nl) (2003)
- digital risk assessment tool for SMEs (medio 2004)  
[www.arbo.mkb.nl](http://www.arbo.mkb.nl)
- Development of digital sector instruments (2004 – 2006)
- An easier check for SME's (lower costs) (2004 – 2006)
- Implementation means for sectors (2006)

# www.rie.nl

Risico Inventarisatie & Evaluatie - zet uw risico's op een rij, voor personeel en materieel - Windows Internet Explorer

http://www.rie.nl/

Risico Inventarisatie & Evaluatie - zet uw risico's op e...

**RISICO**  
INVENTARISATIE & EVALUATIE

**Zet uw risico's op 'n rij,  
Voor personeel en materieel.**

Kies uw branche of lees eerst verder  
op deze pagina.

-- Branches --



### Wat en waarom een RI&E?

#### Ondernemen is risico's lopen

Kent u alle risico's? Ook die voor uw personeel en uw materieel?

Met een Risico-Inventarisatie en -Evaluatie (RI&E) zet u deze risico's op een rij. Zo kunt u ze gericht aanpakken!

De RI&E is niet ingewikkeld. WEL VERPLICHT voor iedere ondernemer met personeel!

Gelukkig hoeft u het niet alleen te doen.

[Lees verder](#) ➤

### Hoe voert u een RI&E uit?

#### Risico's terugdringen in drie stappen

Inventariseren, Evalueren en Aanpakken!

1. Inventarisatie. Alle risico's in uw bedrijf op één lijst
2. Evaluatie. Risico's sorteren; de belangrijkste bovenaan
3. Plan van Aanpak. Wie doet wat, en wanneer?

Klaar? Dan bent u begonnen!

[Lees verder](#) ➤

### Moet ik mijn RI&E laten toetsen?

#### Wijzigingen in de toetsing van de RI&E

Hier vindt u meer informatie over:

- De "lichte toets" door de arbodienst/deskundigen
- Een overzicht van erkende branche RI&E-instrumenten
- Of u uw RI&E moet laten toetsen of niet

#### INFORMATIE VOOR BRANCHEORGANISATIES

Meer informatie over de ontwikkeling en erkenning van uw RI&E-instrument ga naar de [website voor brancheorganisaties](#)

[Lees verder](#) ➤

Gereed

start

presentatie 28 juni

Microsoft PowerPoint ...

Risico Inventarisatie ...

Internet

100%

NL

16:29



## ARBO

Het MKB-Arbo-activiteiten programma

Arbo en u  
Arbowetgeving  
Nieuws

MKB RI&E  
Bedrijfshulpverlening  
MKB Verzuimscan  
Verzuimprotocol

Gids inkoop  
dienstverlening  
verzuim en zorg

Praktijkvoorbeelden

Publicaties  
Nieuwsbrieven  
Vraag en antwoord  
Interessante sites

Zoeken

### Bundeling van kracht



#### Laatste nieuws en activiteiten

Op deze site vindt u een aantal praktische producten en hulpmiddelen die u kunnen ondersteunen bij de uitvoering van uw arbo-, verzuim- en reïntegratiebeleid. Deze producten zijn speciaal ontwikkeld voor ondernemers in het midden- en kleinbedrijf.

#### Laatste nieuws

- 5-02-2007 Arbeidsinspectie neemt aardappelen-, groente- en fruitsector onder de loep
- 28-11-2006 Eerste Kamer akkoord met nieuwe Arbowet
- 6-10-2006 Nieuwe Arbowet: Meer verantwoordelijkheid werkgevers - werknemers
- 7-07-2006 Arbeidsinspectie controleert vakantiewerk en bijbaantjes
- 6-07-2006 Hartdefibrillator niet wettelijk verplicht
- 26-06-2006 Goede Praktijken competitie van start
- 11-05-2006 Werkgevers en werknemers krijgen meer vrijheid bij invullen arbobeleid
- 1-05-2006 Website [www.arbo.nl](http://www.arbo.nl) nu ook voor werknemers



# Development of digital sector R.A. instruments

- Startup Conference
- PR campaign to engage new participating sectors
- Project plan:
  - Securing social partner commitment
  - Project team: participation experts outside TNO
  - Define common goals
  - The method
    - A contract
    - Preparation of workshops on content and major risks
    - Kickoff workshop: R.A. benefits, major risks
    - Collaborative content development
    - Results presented in workshops
    - Conversion of the results, editor training
- Digital tool development
- Development of 'light check' for SMEs
- Launch of Helpdesk
- Development of branche implementation tools

# Implementation tools to reach end users

A guide for development and implementation

[www.brancheorganisaties.rie.nl](http://www.brancheorganisaties.rie.nl)

- Lay down goals, target groups, and means (including wives and pub mates!)
- Lay down communication: focus on language and issues of companies, employers, employees (articles, websites, meetings, events)
- Organise support (Good Practices, training, advice, workshops, helpdesk, FAQ, funds)
- Organise changes in company behaviour (commitment, define tasks and activities, priorities and deliver dates)
- Organise long term commitment for solutions@work (OHSpedia), e.g. through a Community of Practice

# Results of the Dutch approach 2007

- Around 80 digital sector R.A. tools (70 sectors to go)
- 5.000 downloads each month
- Social partners collaborating on both R.A. and solutions
- Focus on major risks
- Cost and time reduction
  
- BUT... there is still a job to do in reaching end users

# Results of the digital R.A. Practice

- “Vervolgmeting producten AP NL, 2006” (Survey by Ecorys)
- Increased instrument awareness: 24% (2005) to 31% (2006): more focus needed on SMEs
- Digital sector R.A instruments are popular thanks tot accessible language etc.

## Depth interview statements from employers:

- “It used to be expert tools; nowadays instruments are used by us employers and employees”
- “We experience this as a valuable tool”
- “It’s cheaper”
- “It’s more readily useable”
- “One learns how to manage one’s risks”