

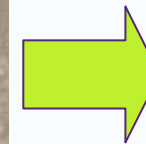
Reducing digging incidents

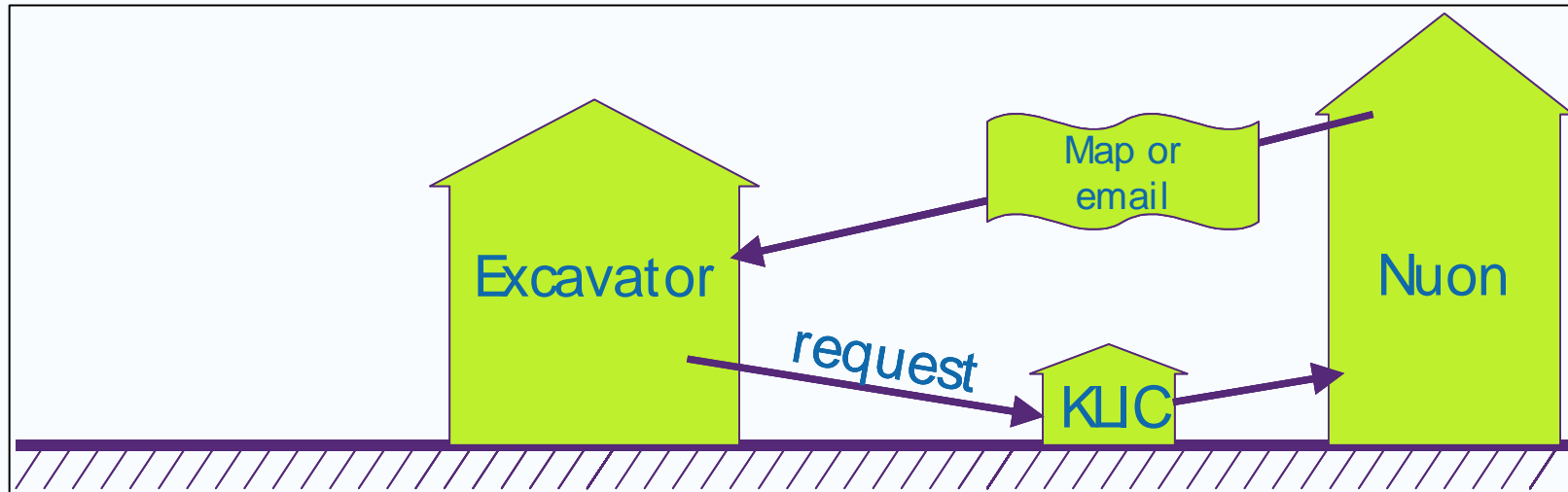
using Risk Management

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7 juni 2006

NUON Inducement

- Digging incidents cause 40% of the network failure
- High societal and direct costs
- Growing interest from government and media





KLIC is an nationwide organisation in which most of the network owners are joined

Nuon uses the WEB-KLIC application for handling the requests from the KLIC

NUON The Nuon Supervisors

- Nuon employs 15 supervisors who;
 - Selects request from WEB-KLIC
 - Visit and coach the excavators
 - Store their experiences in WEB-KLIC

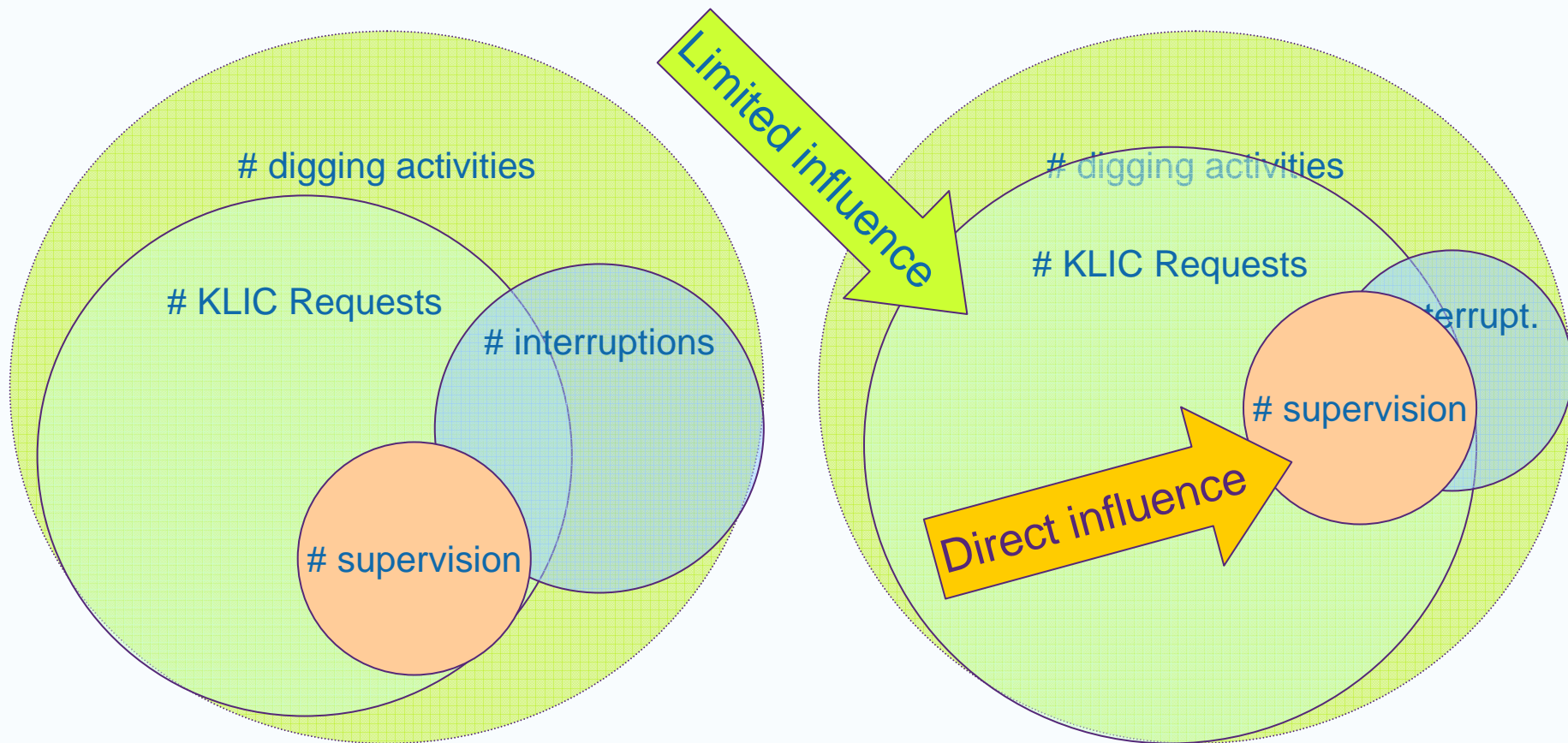
Heb je meer informatie nodig? Bel dan onderstaand nummer:

I	06 2159 5690
II	06 2188 0695
III	06 2159 5691
IV	06 2159 5872
V	06 2159 5753
VI	06 2188 0388

* Grond-, Water- en Wegenbouw Overlegorgaan
 ** Kabel en leidingen Informatie Centrum (www.klic.nl)
 Kaart bestellen? Bel 026 864 2559
 Versie: juli 2006

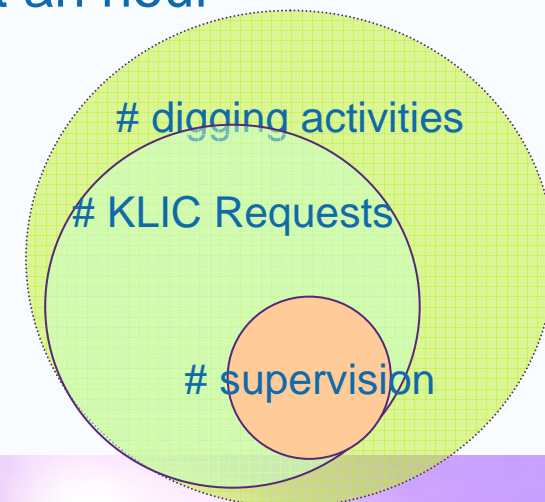
Gasleiding of elektriciteitskabel geraakt? Bel direct 0800 - 9009
 Waterleiding geraakt? Bel Vitens 0800 - 0359

Reduce digging incidents



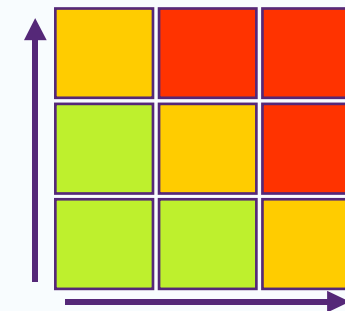
The amount of KLIC requests forces Nuon Supervisors to choose

- Nuon receives 67.000 requests annually, in less then 1% of these requests an incident occurs
- Each request represents an amount of excavation activities, varying from 1 hour to several months.
- A visit to an excavation site takes normally about an hour

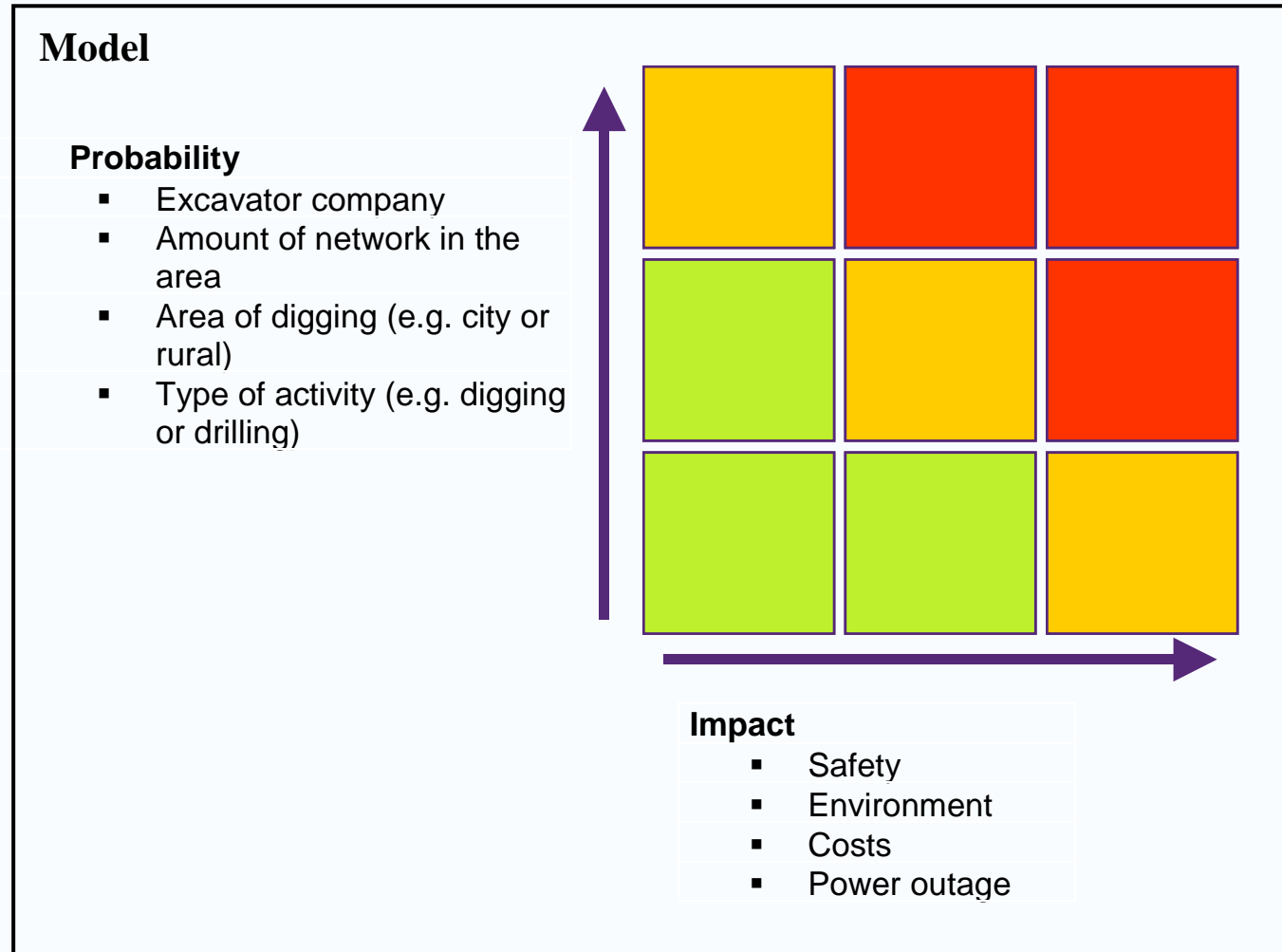


Using risk management supports the supervisor to make the right selection

- To prevent digging incidents it is important to visit those activities with the highest risk
- In the past the supervisors judged all requests manually
- With risk management introduced in WEB-KLIC the selection is automatically available



NUON Method



NUON The application

The screenshot shows the WebKLIC application interface. At the top, there is a navigation bar with buttons for 'WebKLIC', 'Bgl. KLIC', 'Navigeren', 'Beeld', 'Uitvoer', 'Help', and 'Uitloggen'. Below this is a sub-navigation bar with 'Navigatie', 'Lijst', 'Formulier', and 'WebKLIC'. The main content area is titled 'WebKLIC - Zoekresultaten - Lijstuitvoer'. It features a search bar, a pagination control showing '1 t/m 15 van 79', and a dropdown for 'Aantal klikmeldingen per pagina: 15'. The main data is presented in a table with the following columns: 'Risico', 'Begeleiden?', 'Nummerklicmelding', 'Werkomschrijving', 'Gegevens graver', 'Status', 'Schade', 'Ervaring', 'Reputatie', 'Afdr.', and 'Details'. The table contains 15 rows of data, each with a checkbox, a risk indicator (red, yellow, or green square), a dropdown menu, a date, a description, a contractor name, and various status icons. At the bottom left, there is a 'Toon op kaart' button. The status bar at the bottom shows 'Gereed' and 'Local intranet'.

Risico	Begeleiden?	Nummerklicmelding	Werkomschrijving	Gegevens graver	Status	Schade	Ervaring	Reputatie	Afdr.	Details
<input type="checkbox"/>	ja	20051102_V3 02-11-2005	Onbekend/diverse 02-11-2005	H tekadres zuidlaren	11			S		
<input type="checkbox"/>	ja	05G142280 16-11-2005	Rioleringswerkzaamheden 17-11-2005	Elweco BV LAREN GLD	11			S		
<input type="checkbox"/>	ja	20051102 02-11-2005	Onbekend/diverse 02-11-2005	H tekadres zuidlaren	22			S		
<input type="checkbox"/>	ja	WSCWSCWSC_V2 03-11-2005	Kabels/leidingen leggen 03-11-2005	NUON HARDERWIJK	11			S		
<input type="checkbox"/>	ja	TESTACN_V2 18-11-2005	Onbekend/diverse 18-11-2005	fa. van der Spek HAZERSWOUDE RIJNDIJK	11			S		
<input type="checkbox"/>	onbekend	20051108_PLOTTEST_V2 08-11-2005	Proefsleuven graven 08-11-2005	H tekadres zuidlaren	11			O		
<input type="checkbox"/>	onbekend	20051108_PLOTTEST 08-11-2005	Proefsleuven graven 08-11-2005	H tekadres zuidlaren	11			O		
<input type="checkbox"/>	ja	20051202_HEN 02-12-2005	Onbekend/diverse 02-12-2005	H tekadres zuidlaren	11			S		
<input type="checkbox"/>	onbekend	20051124+HENPROJ_V3 24-11-2005	O.V. werkzaamheden 24-11-2005	H tekadres zuidlaren	11			O		
<input type="checkbox"/>	onbekend	20051102_V2 02-11-2005	Onbekend/diverse 02-11-2005	H tekadres zuidlaren	11			O		
<input type="checkbox"/>	nee	A321112005 21-11-2005	Reconstructiewerkzaamheden 22-11-2005	A. v. Zuidam APELDOORN	11			S		
<input type="checkbox"/>	onbekend	WSC234 18-11-2005	Kabels/leidingen leggen 18-11-2005	NUON HARDERWIJK	11			O		
<input type="checkbox"/>	onbekend	06G020283 23-03-2006	Bodemonderzoek/sonderingen 01-04-2006	Klic TEST ARNHEM	21			O		
<input type="checkbox"/>	onbekend	06G020281 23-03-2006	Archeologisch onderzoek 30-03-2006	TEST HEESCH	21			O		
<input type="checkbox"/>	onbekend	06G020280 23-03-2006	Aarding slaan 29-03-2006	TEST HEESCH	21			O		

NUON Experience and Conclusion

- Preventing incidents caused by digging is an obligation for the network operator as well as for the excavator.
- Risk management supports Nuon in coaching the high risk excavation activities.
- By storing experiences, the model becomes more reliable
- The use of this model reduced “office time” for the Nuon coaches, this allows them to coach more excavators.

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