

# Talvivaara mine and water pollution: Policy analysis of conflict process

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## Publications concerning Talvivaara case

- **Sairinen, Rauno & Tiainen, Heidi & Mononen, Tuija (2017)**  
*Talvivaara Mine and Water Pollution: An Analysis of Mining Conflict in Finland.* The Extractive Industries and Society.
- **Mononen, Tuija (2015).** *Jos olisi tavallinen kaivos - Talvivaaran kaivoshankkeen ympäristövaikutukset lähialueen asukkaiden kokemana.* Terra 127(3), 113-124.
- **Tiainen, Heidi; Sairinen, Rauno & Mononen, Tuija (2014)**  
*Talvivaaran kaivoshankkeen konfliktoituminen [Conflict process of Talvivaara mine in Finland].* Ympäristöpolitiikan ja -oikeuden vuosikirja 2014: VII. P. 7-76. Itä-Suomen yliopisto: Joensuu.
- **Kotilainen, Juha (2015).** *Environmental Disasters as the Drivers for Policy Change – Case Study: Talvivaara Mine.* Master thesis / University of Eastern Finland.



## Original article

# Talvivaara mine and water pollution: An analysis of mining conflict in Finland

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## ABSTRACT

This article contributes to the growing literature on natural resource management conflicts and mineral related environmental conflicts in particular, focusing on the case of the Talvivaara project in Finland. The economic and environmental impacts of this mine became a key focus of Finnish politics during 2010–12. Its performance has sparked a heated discussion about the legitimacy of the mining industry and its place in Finnish society. The paper analyses the Talvivaara crisis as a process, which began as a local environmental conflict but would become a symbol of national conflict in the mining industry. The policy analysis presented here is informed by Pondy's Model of Organisational Conflict.

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## 1. Introduction

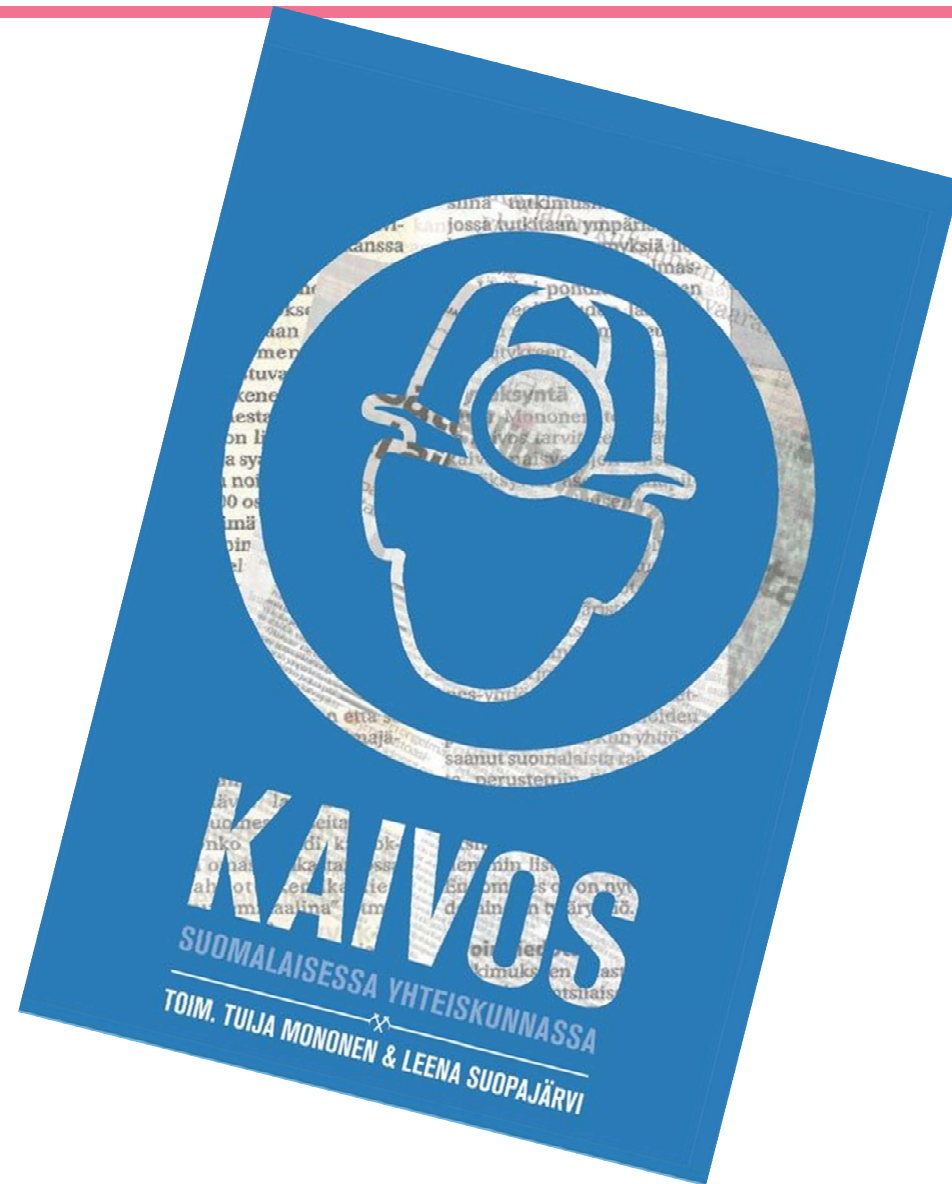
This article contributes to the growing literature about natural resource management conflicts. (e.g. [Arslan et al., 2016](#); [Kemp 2011](#); [Franks et al., 2014](#); [Labonne, 2016](#); [Paredes, 2016](#)). The article is a case study from a significant mine project "Talvivaara" in Finland. Through its prolonged and severe environmental and economic problems, the mine and the company became one of the key issues in Finnish politics during 2010–12. The case which has been

problem, focusing on three different questions: 1) How did Talvivaara become an environmental issue: what stages did the Talvivaara conflict process go through? 2) What content, actors, and features were relevant to the conflict policy process? 3) Which factors affected the exacerbation of the conflict? The questions will be answered by analyzing empirical material and making interpretations of the conflict process. The article examines the Talvivaara conflict as a process, which took several years, and turned from a local environmental conflict into a national symbol

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## Other publications:

- **Kaivos suomalaisessa yhteiskunnassa** [Mines in the Finnish Society], eds by. T. Mononen & L. Suopajarvi. Lapland University Press. Rovaniemi.

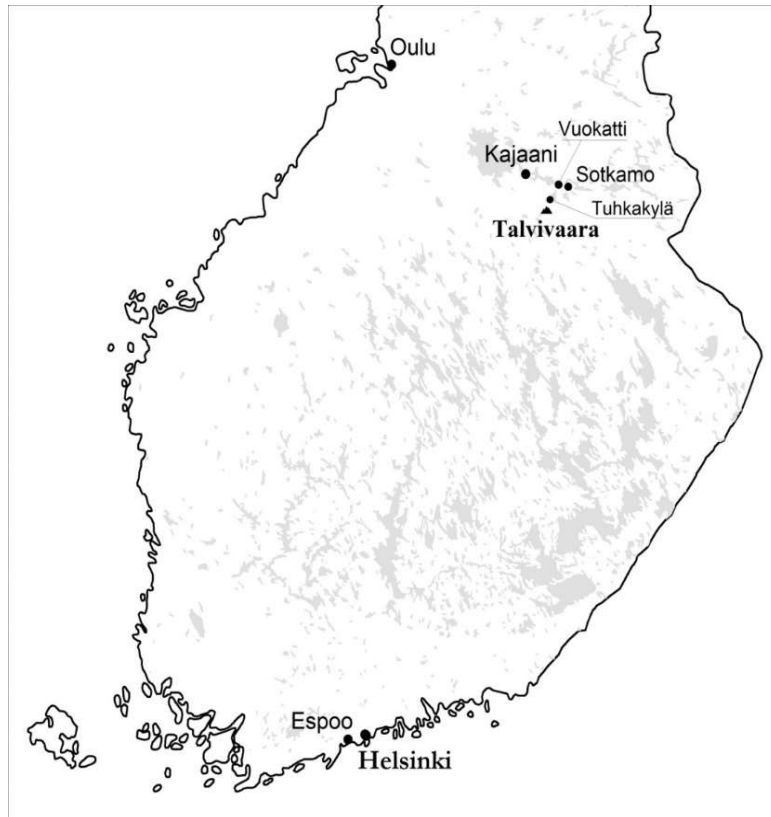


# Talvivaara multi-metal mine



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## From Talvivaara to Terrafame



- On the European and world scale significant nickel mine.
- The ore reserves estimated to suffice for 50-60 years.
- Also zink, cobolt, copper and under preparation uranium.
- EIA report 2005
- Production started 2008.
- Leakages to local waters 2010-12
- Under huge public discussion long time
- Bankruptcy in 2015
- New owner: **Terrafame** (state owned, tries to get private investors)

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## Starting point for our research:

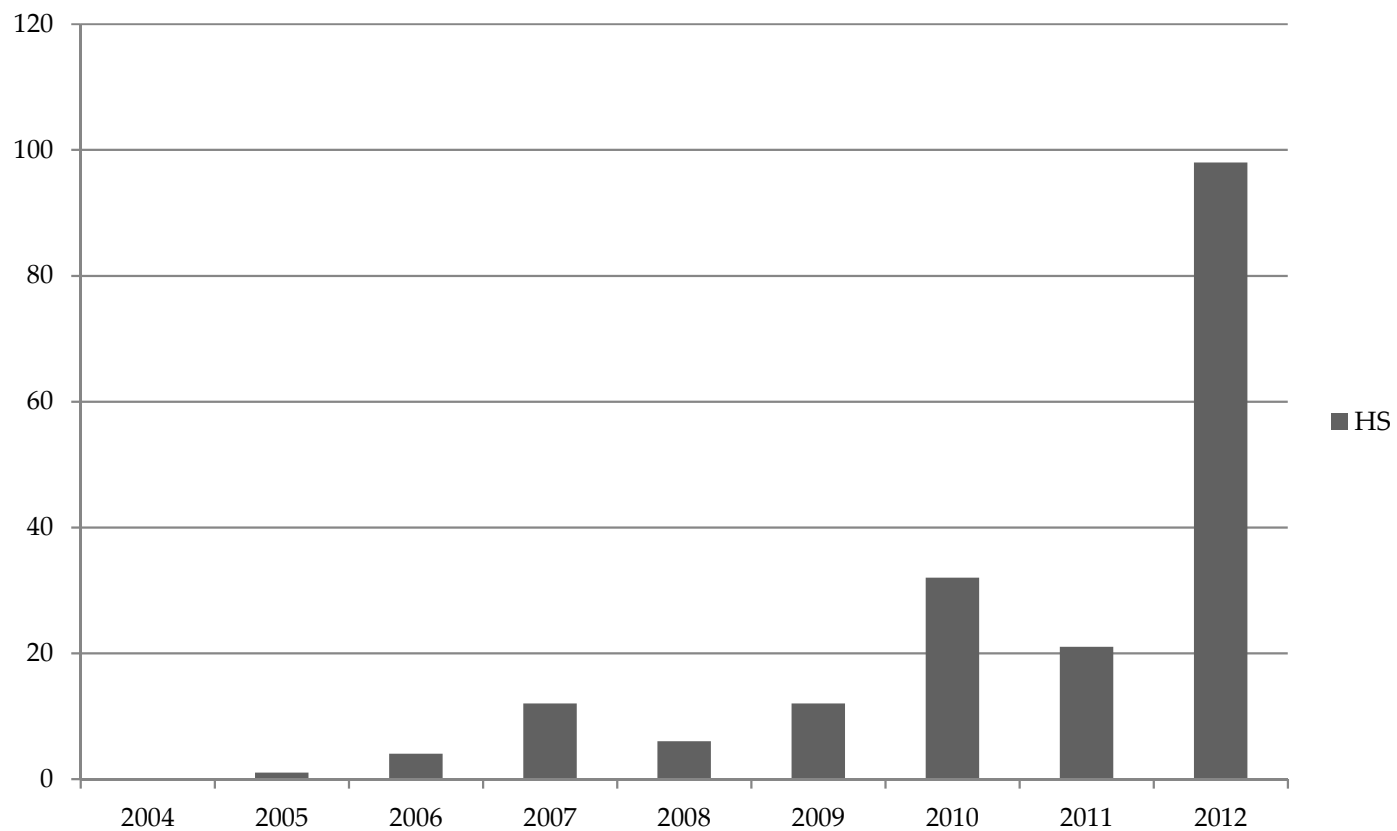
**Many years lasting environmental and economic challenge / env. conflict process**

The Talvivaara environmental conflict began as a local dispute, which, through various stages, escalated into a conflict of national scale.

**Whole story influenced general distrust into mining in Finnish society**

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## HS



**Figure 1:** Number of articles in *Helsingin Sanomat* about Talvivaara 2004–2012 (Tiainen et al. 2014).



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## Different phases of conflict (Pondy)

- 1) **Latent conflict (piilevä konflikti):** No outright conflict exists, but there is a potential for conflict because of several latent factors.
- 2) **Perceived conflict (havaittu konflikti):** Conflict escalates as groups battle over the cause of conflict.
- 3) **Felt conflict (koettu konflikti):** Actors respond emotionally to each other and attitudes polarize. What began as a small problem escalates into huge conflict.
- 4) **Manifest conflict (manifestoitu konflikti):** Fighting and open aggression, wide public attention.
- 5) **Conflict aftermath (jälkinäytös):** Conflict is resolved in some way. If sources of conflict are not resolved, the dispute will arise again.

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## Talvivaara's environmental conflict stages:

- **Establishment (2003–06)** / (*pre-conflict conditions*)
- **Glory (2007–09)** / (*latent conflicts*)
- **Emerging problems (2010)** / (*perceived conflict*)
- **Exacerbated problems (2011)** / (*felt conflict*)
- **Total conflict (spring 2012)** / (*manifested conflict*)
- **Crisis (fall 2012)** (*manifested conflict*)
  
- *Conflict aftermath 2013- (not in this study)*

News 5.11.2012 6:48 | updated 5.11.2012 21:11

## Talvivaara waste water leaks into environment

Over 220,000 cubic metres of waste water have leaked from a gypsum waste pond at the Talvivaara mine in Kainuu. Some of the water has spilled to an area outside the mine.



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- **Establishment (2003–06):** The planning and foundation stages, when there was no significant public attention (*pre-conflict conditions*)
  - **Glory (2007–09):** The stage for the promise of work and regional development, awards and recognition, some local people have worries (*latent conflicts*).
  - The project was described very positively in news headlines such as “Nickel: A stroke of luck for Kainuu” (HS 2007).
  - The mine had nearly 2,000 employees including subcontractors and construction workers, a clearer picture of the mineral resources available, and a predicted lifespan of over 60 years

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- **Emerging problems (2010):** Expansion of production, fears and risks appear locally, the uranium dispute starts, odor and water problems in the region (*perceived conflict*)

- In March 2010, there was a leak from the mine's gypsum sediment pond. No emissions outside the mining area.
- During the fall of 2010, Talvivaara Mining Company Plc. discovered that the sodium, sulfate and manganese content of its wastewater had risen considerably above the required limits. The main reason for these elevated levels was the change from water to lye gas scrubbers. The sodium in the lye combines with the sulfate during the process water purification.
- In June 2010 web-page for [local environmentalists and residents talvivaaraymparisto.nettisivu.org](http://localenvironmentalistsandresidents.talvivaaraymparisto.nettisivu.org) was opened.

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- **Exacerbated problems (2011):** Pollution of the water system (growing conflict), wide media activation, sauna-water discussion, politicization (ministers and MEPs enter the discussion, initiation of broader civil activity), Talvivaara starts improving its processes (*felt conflict*)
    - Talvivaara submitted an application for uranium extraction to the Ministry of Employment and the Economy in June 2011
    - Bathing or washing in the lake water was not recommended because of elevated concentrations of manganese, sulfate and iron concentrations
    - In September 2011, the HS reported that KaiELY has made a request to the Oulu police to investigate the treatment of Talvivaara mine effluents
    - November 2011, the HS article entitled “[Talvivaara waste changes lake water into sea water](#)”

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- **Total conflict (spring 2012):** Comprehensive and national critique of the mine, the company, and the authorities (*manifested conflict*)

- At the beginning of 2012 the volume of process water discharged from Talvivaara had decreased significantly, as had the concentrations of sulfate and manganese in it (recycling and purifying the wastewater).
- Local people were concerned about foam in the water
- According to environment minister Niinistö, there was no justification for uranium production

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- **Crisis (fall 2012):** New leakage and crisis situation, talk of shut-down, nature of the technology revealed, economic sustainability of the company also discussed. (*manifested conflict*)

- the mine's gypsum sediment pond leaked on November 5, 2012. The leak was located within three days, but it could not be stopped right away (metal production was stopped until end of Nov)
- The public response and criticism was massive: environmental NGOs and individual politicians called for the closure of the mine.
- Running down the production and post-processing was described as difficult, long-term and costly.
- Political leaders in the government were of the opinion that the incident constituted grounds for assessing the need for legislative changes
- Talvivaara noted that heavy rains had played a large role in causing the problems



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# From new clean tech to risk technology

- **Talvivaara did pioneering work** in developing its technology, for which it was rewarded. The regional economic contribution was large
- **The problems of large scale and northern conditions**
  - Controlling the bioleaching process and water balances led to problems during the entire course of mining activities
- **The problems of controlling the processes and how to communicate:**
  - Running down the production and post-processing was described as difficult, long-term and costly: *“You can’t close*



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## Strong growth orientation & rapid pace of the project

- As a new organisation company did not have time, resources and knowhow to develop needed environmental and social expertise.
- The interests and speed for growing the production and getting financial results seems to be too strong

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## Strong personification of the project and management

- Management included too much individual attitudes which influenced weak (multi)professional resourcing and evaluation of problem situations, undervaluation of costs of environmental matters for the entire project and society relations.

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## From local worries to national attention

- There were at first many small and medium sized environmental problems which were handled slowly and in some conflict with local people, tourism & recreation

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## From local worries to national attention

- Local people are willing to compromises; the regional economic benefits are understood.
  - ➔ **But the social acceptance has its limits**
- Problems in grievance mechanisms? How do we handle complaints?
  - ➔ **improved CSR policy was developed during the processes ( was it too late)?**
- The trend towards increasing amount of problems
  - ➔ **Company was not accepting its own responsibilities**

# Talvivaara toimittaa pesuvedet lähijärvien mökeille - "Ei korvaa sitä, että emme voi uida tai kalastaa"

Talvivaaran kaivosyhtiö on toimittanut saunavedet lähinaapureilleen jo muutamia viikkoja. Vesikuljetukset helpottavat mökkeilyä, mutta vieraita tulee kylään harvemmin.

Kotimaa 20.6.2013 klo 12:15 | päivitetty 12.5.2016 klo 13:06

 Kuuntele



Tekijät  
(2 henkilöä)



JAA  
161

Symbols

# Talvivaaran johtaja: päästörajoja ei ole ylitetty

Julkaistu: 9.11.2011 10:51



Jaa



Twiittaa



Sähköposti

## Kaivosyhtiö Talvivaaran toimitusjohtaja Pekka Perä kiistää yhtiön ylittäneen päästörajat.

Perän mukaan esimerkiksi sulfaattipitoisuuksille ei ole olemassa päästörajaa, jota yhtiön tulisi noudattaa.

- Isolle osalle aineista ei ole asetettu raja-arvoja. Niistä on arviot, jotka on ylitetty, mutta arviot eivät ole luparajoja, Perä sanoo STT:lle.

Talvivaaran jätevesien käsittelystä on jätetty tutkintapyyntöjä. Poliisia on pyydetty selvittämään, rikkooko kaivosyhtiö ympäristölupansa määräksiä laskiessaan jätevesiä lähialueen vesistöön.

Kaivoksen vaikutusalueen piirissä olevista vesistöistä on mitattu kohonneita päästöarvoja.

Helsingin Sanomien mukaan Talvivaara ylittää sulfaattipäästörajat monikymmenkertaisesti.

- Olemme edelleen ja haluamme olla ympäristötehokkaan

### Sanoma-mainokset

#### Katso sähkötarjous

Lue lisää ja tee tilaus. Suomen edullisinta sähköä!  
[Helen.fi/Edullinen-Sähkö Sopimus](http://Helen.fi/Edullinen-Sähkö Sopimus)

#### Nyt eroon pikavipeistä

Esim 8 000€ yhdistelylaina alkaen 110€/kk. Laske säästösi ja tee hakemus.  
[www.etua.fi/yhdistelylainat](http://www.etua.fi/yhdistelylainat)

#### S-Pankin laina

Rahoita isommat hankinnat 50 000 € asti ilman vakuuksia tai takaajaa.  
[s-pankki.fi/s-laina](http://s-pankki.fi/s-laina)

#### Anti-age-läpimurto

Enemmän kuin retinoli. Sopii herkimmällekin iholle. Tutustu lisää.  
[www.medik8.fi](http://www.medik8.fi)

Sanoma Network Optimizer

## NÄITÄ LUETAAN!

JUURI NYT

PÄIVÄ

VI

1. Tässä he ovat! Nämä kymmenen kaunotarta kisaavat Miss Suomi -kruunusta – äänestä suosikkiasi
2. Spede Pasasen ex-tyttöystävä av uutuuskirjassa suhteen kurjista | - teki ”pahimman virheensä” ke deittien - Spede kosti nöyryyttäi  
*11:30*
3. Hurrikaani Irma tuhosi Richard Bransonin paratiisisaaren - milja suojautui viinikellariin *9:23*
4. Lainan, 1,5 vuotta, flunssa olikin leukemia - ”Sairaudessa ei ole yl mitään järkeä” *12:24*
5. Aivovamman saanut kiekkoilija : tyhjän kirjekuoren jäähyväispeli seurapomo selittää rahojen puuttumista *10:26*
6. Kuin pala paratiisia! Tässä taitaa Euroopan kaunein ja samalla aliarvostetuin matkakohde *13:06*
7. Miksi Janne Ahonen, 40, nauttii erikoiskohtelua maajoukkueessa: 10 000 euroa apurahaa, treenaa  
*13:18*

Murkelus-pikavipeillä Näitä tutu...



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## Problems of "trust"

- Distrust in communication: **too many contradictions** between company's communication and reality.
- Local trust: breaking the original promises of "**clean**" **production**.
- The general trust: if you cannot handle small problems, how do you survive from bigger ones?
- Talvivaara as a possible **uranium** –mine challenged the trust and brought national activists into place.



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# Key dimensions of actor relations in the Talvivaara conflict

- 1) Local trust & contradictions
- 2) The role of citizens and civil action: angry citizens & NGOs
- 3) Confidence in authorities and experts, role of env. authorities
- 4) Politicization, government –level dispute
- 5) Big role of the media
- 6) Formulation of Talvivaara's organization and policy

**THANK YOU FOR YOUR  
ATTENTION!**

