TÜRKİYE İSTATİSTİK KURUMU
Turkish Statistical Institute

MALİ VE MALİ OLMAYAN ŞİRKETLER ARAŞTIRMA VE GELİŞTİRME FAALİYETLERİ ARAŞTIRMASI MİKRO VERİ SETİ

Financial and Non-Financial Corporations Research and Development Activities Survey Micro Data Set 2020



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Financial and Non-Financial Corporations Research and Development Activities Survey Micro Data Set, 2020

Previously Published Micro Data Sets

2003 2004 2005 2006 2007 2008 2009 2010

2011 2012 2013 2014 2015 2016 2017 2018 2019

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Financial and Non-Financial Corporations Research and Development Activities Survey

Financial and Non-Financial Corporations Research and Development Activities Survey, 2020 (It was called Research and Development Activities Survey of Industry and Service Enterprises before the 2016 reference year) includes micro data set, main tabulated results, methodological information and principles for micro data. It is possible to produce cross tables, make various statistical analyses and run econometric models by means of using micro data given in this micro data set.

Financial and Non-Financial Corporations Research and Development Activities Survey indicates the estimation level of Turkey. However, it is possible to obtain results according to Statistical Region (SR) Level 2 for Researcher R&D personnel, Total R&D personnel and total intramural R&D expenditure variables in gender breakdown by using micro data as well. It should be noted that; this survey is not suitable for the announcement of results which are out of the estimation level mentioned above. TurkStat is not responsible for the reliability of the results which will be produced regardless of these warnings.

1. Agreement

- The micro data presented were prepared according to the Regulation named "Regulation of Procedure and Principles of Data Confidentiality and Confident Data Security in Official Statistics" which was issued by the Article 13 of Statistics Law of Turkey No: 5429 and entered into force with the date of June 20, 2006, following that of its publication in the Official Journal No: 26204.
- The data given shall not be copied or released to any other person or organization according to the Statistics Law of Turkey No 5429 and Article 14.
- Instruction for using the micro data is given in "Data Guide" section.
- Researchers should indicate the “Research and Development Activities Survey” for data source while publishing the results of the studies on journals or other publications.
- Researchers should also send a copy from these publications to the library of TurkStat.
- When using the data, the aim of study, scope and reliable estimation level should be considered.

2. Data Guide

It is possible to produce cross tables, make various statistical analyses and run econometric models by means of using micro data. Detailed information is given about the types, lengths, options and descriptions of the variables to be used.Estimation level of Financial and Non-Financial Corporations Research and Development Activities Survey is Turkey. However, it is possible to obtain results according to Statistical Region (SR) Level 2 for number of researcher and R&D personnel and intramural R&D expenditure as well. It should be noted

that; this survey is not suitable for the announcement of results which are out of the estimation level mentioned above. TurkStat is not responsible for the reliability of the results which will be produced regardless of these warnings.

Variables in Micro Data

VARIABLE NAME	VARIABLE LABEL	VARIABLE	LENGTH
GIRISIM_REF	It is the number given by TURKSTAT to the statistical unit	Numeric	8
CEVAPLILIK_DURUM	Response status	Numeric	8
REFERANS_YIL	Reference year	Numeric	8
BOLGE_KOD	Code of the region	Character	2
NACE2	NACE Rev.2	Character	2
TEKNOLOJI_SINIFLAMASI	Technology level	Character	21
CALISAN_ORTALAMA	Average number of employees of the statistical unit	Numeric	8
CALGRUP	Size group of the statistical unit	Numeric	8
ARGE_FAALIYET	Includes information on whether the enterprise has engaged in R&D activity in the reference year.	Numeric	8
ARGE_ALAN_DOGA	The ratio of R&D activities conducted in the field of natural sciences (%)	Numeric	8
ARGE_ALAN_MUHENDISLIK	The ratio of R&D activities carried out in the field of engineering and technology (%)	Numeric	8
ARGE_ALAN_TIP	The ratio of R&D activities carried out in the field of medical sciences (%)	Numeric	8
ARGE_ALAN_TARIM	The ratio of R&D activities conducted in the field of agricultural sciences (%)	Numeric	8
ARGE_ALAN_SOSYAL	The ratio of R&D activities conducted in the field of social sciences (%)	Numeric	8
ARGE_ALAN_BESERI	The ratio of R&D activities carried out in the field of humanities (%)	Numeric	8
TOPLAM_CARI_ARGE_HARCAMA	Current R&D expenditure total (TRY)	Numeric	8
PERSONEL_HARCAMA	R&D Personnel Expenditure (TRY)	Numeric	8
DIGER_CARI_HARCAMA	Other current R&D expenditure (TRY)	Numeric	8
TOPLAM_ARGE_YATIRIM_HARCAMA	Total R&D investment expenditure (TRY)	Numeric	8
MAKINE_HARCAMA	R&D machine-equipment expenditure (TRY)	Numeric	8
SABITTESIS_HARCAMA	R&D fixed facility expenditure (TRY)	Numeric	8
AKTIF_BILGISAYAR_HARCAMA	Activated computer software expenditure (TRY)	Numeric	8
FIKRI_MULKIYET_HARCAMA	Intellectual Property Rights expenditure (TRY)	Numeric	8
TOPLAM_ARGE_HARCAMA	Total R&D expenditure (TRY)	Numeric	8
TEMEL_ARASTIRMA	Rate of R&D activities carried out for basic research purposes (%)	Numeric	8
UYGULAMALI_ARASTIRMA	Rate of R&D activities carried out with the aim of applied research (%)	Numeric	8
DENEYSEL_YENIURUN	The ratio of R&D activities conducted with the aim of developing experimental new products (%)	Numeric	8
DENEYSEL_IYILESTIRME	Rate of R&D activities carried out with the aim of experimental improvement (%)	Numeric	8
DENEYSEL_SUREC	Rate of R&D activities carried out with the aim of improving the experimental process (%)	Numeric	8
FINANS_GIRISIM_BUTCE	The portion of the financing of the expenditure made for R&D activities covered by the enterprise's' budget (TRY)	Numeric	8
FINANS_MMOS_TOP	The portion of the financing of R&D expenditures covered by financial and non-financial corporations (TRY)	Numeric	8
FINANS_KAMU_TOP	The portion of the financing of the expenditure made for R&D activities covered by public	Numeric	8

	resources (TRY)		
FINANS_UNIV_TOP	The part of the financing of the expenses made for R&D activities covered by the universities (TRY)	Numeric	8
FINANS_PNP_TOP	The portion of the financing of the expenses made for R&D activities covered by private non-profit institutions (TRY)	Numeric	8
FINANS_YDISI_TOP	The portion of the financing of the expenditures made for R&D activities covered by foreign sources (TRY)	Numeric	8
FINANS_GENEL_TOP	Financial sources of internal R&D expenditures (TRY)	Numeric	8
ARS_KADIN_DR	Number of female researchers, Doctoral level or equivalent	Numeric	8
ARS_ERKEK_DR	Number of male researchers, Doctoral level or equivalent	Numeric	8
ARS_TOP_PER_DR	Total number of researchers, Doctoral level or equivalent	Numeric	8
ARS_KADIN_DR_TZE	Number of female researchers (FTE), Doctoral level or equivalent	Numeric	8
ARS_ERKEK_DR_TZE	Number of male researchers (FTE) , Doctoral level or equivalent	Numeric	8
ARS_TOP_PER_DR_TZE	Total number of researchers (FTE) , Doctoral level or equivalent	Numeric	8
ARS_HAFT_MESAI_DR	Researcher weekly average working time per person (hours), Doctoral level or equivalent	Numeric	8
ARS_HAFT_ARGE_DR	Researcher weekly average time devoted to R&D (hours), Doctoral level or equivalent	Numeric	8
ARS_YILLIKUCR_DR	Researcher average annual gross payment (TRY), Doctoral level or equivalent	Numeric	8
ARS_ARGEUCR_DR	Researcher R&D personnel expenditure (TRY), Doctorate and above	Numeric	8
ARS_KADIN_YLSNS	Number of female researchers, Master level or equivalent	Numeric	8
ARS_ERKEK_YLSNS	Number of male researchers, Master level or equivalent	Numeric	8
ARS_TOP_PER_YLSNS	Total number of researchers, Master level or equivalent	Numeric	8
ARS_KADIN_YLSNS_TZE	Number of female researchers (FTE), Master level or equivalent	Numeric	8
ARS_ERKEK_YLSNS_TZE	Number of male researchers (FTE), Master level or equivalent	Numeric	8
ARS_TOP_PER_YLSNS_TZE	Total number of researchers (FTE), Master level or equivalent	Numeric	8
ARS_HAFT_MESAI_YLSNS	Researcher weekly average working time per person (hours), Master level or equivalent	Numeric	8
ARS_HAFT_ARGE_YLSNS	Researcher, average time allocated to R&D per person per week (hours), Master level or equivalent	Numeric	8
ARS_YILLIKUCR_YLSNS	Researcher average annual gross payment (TRY), Master level or equivalent	Numeric	8
ARS_ARGEUCR_YLSNS	Researcher R&D personnel expenditure (TRY), Master level or equivalent	Numeric	8
ARS_KADIN_LSNS	Number of female researchers, Bachelor level or equivalent	Numeric	8
ARS_ERKEK_LSNS	Number of male researchers, Bachelor level or equivalent	Numeric	8
ARS_TOP_PER_LSNS	Total number of researchers, Bachelor level or equivalent	Numeric	8
ARS_KADIN_LSNS_TZE	Number of female researchers (FTE), Bachelor level or equivalent	Numeric	8
ARS_ERKEK_LSNS_TZE	Number of male researchers (FTE), Bachelor level or equivalent	Numeric	8
ARS_TOP_PER_LSNS_TZE	Total number of researchers(FTE), Bachelor	Numeric	8

	level or equivalent		
ARS_HAFT_MESAI_LSNS	Researcher weekly average working time per person (hours), Bachelor level or equivalent	Numeric	8
ARS_HAFT_ARGE_LSNS	Researcher, weekly average time allocated for R&D per person (hours), Bachelor level or equivalent	Numeric	8
ARS_YILLIKUCR_LSNS	Researcher average annual gross payment (TRY), Bachelor level or equivalent	Numeric	8
ARS_ARGEUCR_LSNS	Researcher R&D personnel expenditure (TRY), Bachelor level or equivalent	Numeric	8
ARS_KADIN_MYO	Number of female researchers, Short-cycle tertiary education	Numeric	8
ARS_ERKEK_MYO	Number of male researchers, Short-cycle tertiary education	Numeric	8
ARS_TOP_PER_MYO	Total number of researchers, Short-cycle tertiary education	Numeric	8
ARS_KADIN_MYO_TZE	Number of female researchers (FTE), Short-cycle tertiary education	Numeric	8
ARS_ERKEK_MYO_TZE	Number of male researchers (FTE), Short-cycle tertiary education	Numeric	8
ARS_TOP_PER_MYO_TZE	Total number of researchers(FTE), Short-cycle tertiary education	Numeric	8
ARS_HAFT_MESAI_MYO	Researcher weekly average working time per person (hours), Short-cycle tertiary education	Numeric	8
ARS_HAFT_ARGE_MYO	Researcher, weekly average time allocated for R&D per person (hours), Short-cycle tertiary education	Numeric	8
ARS_YILLIKUCR_MYO	Researcher average annual gross payment (TRY), Short-cycle tertiary education	Numeric	8
ARS_ARGEUCR_MYO	Researcher R&D personnel expenditure (TRY), Short-cycle tertiary education	Numeric	8
ARS_KADIN_LISE	Number of female researchers, Upper secondary education	Numeric	8
ARS_ERKEK_LISE	Number of male researchers, Upper secondary education	Numeric	8
ARS_TOP_PER_LISE	Total number of researchers, Upper secondary education	Numeric	8
ARS_KADIN_LISE_TZE	Number of female researchers (FTE), Upper secondary education	Numeric	8
ARS_ERKEK_LISE_TZE	Number of male researchers (FTE), Upper secondary education	Numeric	8
ARS_TOP_PER_LISE_TZE	Total number of researchers(FTE), Upper secondary education	Numeric	8
ARS_HAFT_MESAI_LISE	Researcher weekly average working time per person (hours), Upper secondary education	Numeric	8
ARS_HAFT_ARGE_LISE	Researcher, weekly average time allocated for R&D per person (hours), Upper secondary education	Numeric	8
ARS_YILLIKUCR_LISE	Researcher average annual gross payment (TRY), Upper secondary education	Numeric	8
ARS_ARGEUCR_LISE	Researcher R&D personnel expenditure (TRY), Upper secondary education	Numeric	8
TKN_KADIN_DR	Number of female Technicians/equivalent staffs, Doctorate and above	Numeric	8
TKN_ERKEK_DR	Number of male Technicians/equivalent staffs, Doctorate and above	Numeric	8
TKN_TOP_PER_DR	Total number of Technicians/equivalent staffs, Doctorate and above	Numeric	8
TKN_KADIN_DR_TZE	Number of female Technicians/equivalent staffs (FTE), Doctorate and above	Numeric	8
TKN_ERKEK_DR_TZE	Number of male Technicians/equivalent staffs (FTE), Doctorate and above	Numeric	8
TKN_TOP_PER_DR_TZE	Total number of Technicians/equivalent staffs(FTE), Doctorate and above	Numeric	8

TKN_HAFT_MESAI_DR	Technicians/equivalent staff weekly average working time per person (hours), Doctorate and above	Numeric	8
TKN_HAFT_ARGE_DR	Technicians/equivalent staff, weekly average time allocated for R&D per person (hours), Doctorate and above	Numeric	8
TKN_YILLIKUCR_DR	Technicians/equivalent staff average annual gross payment (TRY), Doctorate and above	Numeric	8
TKN_ARGEUCR_DR	Technicians/equivalent staff R&D personnel expenditure (TRY), Doctorate and above	Numeric	8
TKN_KADIN_YLSNS	Number of female Technicians/equivalent staffs, Master level or equivalent	Numeric	8
TKN_ERKEK_YLSNS	Number of male Technicians/equivalent staffs, Master level or equivalent	Numeric	8
TKN_TOP_PER_YLSNS	Total number of Technicians/equivalent staffs, Master level or equivalent	Numeric	8
TKN_KADIN_YLSNS_TZE	Number of female Technicians/equivalent staffs (FTE), Master level or equivalent	Numeric	8
TKN_ERKEK_YLSNS_TZE	Number of male Technicians/equivalent staffs (FTE), Master level or equivalent	Numeric	8
TKN_TOP_PER_YLSNS_TZE	Total number of Technicians/equivalent staffs(FTE), Master level or equivalent	Numeric	8
TKN_HAFT_MESAI_YLSNS	Technicians/equivalent staff weekly average working time per person (hours), Master level or equivalent	Numeric	8
TKN_HAFT_ARGE_YLSNS	Technicians/equivalent staff, weekly average time allocated for R&D per person (hours), Master level or equivalent	Numeric	8
TKN_YILLIKUCR_YLSNS	Technicians/equivalent staff average annual gross payment (TRY), Master level or equivalent	Numeric	8
TKN_ARGEUCR_YLSNS	Technicians/equivalent staff R&D personnel expenditure (TRY), Master level or equivalent	Numeric	8
TKN_KADIN_LSNS	Number of female Technicians/equivalent staffs, Bachelor level or equivalent	Numeric	8
TKN_ERKEK_LSNS	Number of male Technicians/equivalent staffs, Bachelor level or equivalent	Numeric	8
TKN_TOP_PER_LSNS	Total number of Technicians/equivalent staffs, Bachelor level or equivalent	Numeric	8
TKN_KADIN_LSNS_TZE	Number of female Technicians/equivalent staffs (FTE), Bachelor level or equivalent	Numeric	8
TKN_ERKEK_LSNS_TZE	Number of male Technicians/equivalent staffs (FTE), Bachelor level or equivalent	Numeric	8
TKN_TOP_PER_LSNS_TZE	Total number of Technicians/equivalent staffs(FTE), Bachelor level or equivalent	Numeric	8
TKN_HAFT_MESAI_LSNS	Technicians/equivalent staff weekly average working time per person (hours), Bachelor level or equivalent	Numeric	8
TKN_HAFT_ARGE_LSNS	Technicians/equivalent staff, weekly average time allocated for R&D per person (hours), Bachelor level or equivalent	Numeric	8
TKN_YILLIKUCR_LSNS	Technicians/equivalent staff average annual gross payment (TRY), Bachelor level or equivalent	Numeric	8
TKN_ARGEUCR_LSNS	Technician R&D personnel expenditure (TRY), Bachelor level or equivalent	Numeric	8
TKN_KADIN_MYO	Number of female technicians, Short-cycle tertiary education	Numeric	8
TKN_ERKEK_MYO	Number of male technicians, Short-cycle tertiary education	Numeric	8
TKN_TOP_PER_MYO	Total number of technicians, Short-cycle tertiary education	Numeric	8
TKN_KADIN_MYO_TZE	Number of female technicians (FTE), Short-cycle tertiary education	Numeric	8

TKN_ERKEK_MYO_TZE	Number of male technicians (FTE), Short-cycle tertiary education	Numeric	8
TKN_TOP_PER_MYO_TZE	Total number of technicians(FTE), Short-cycle tertiary education	Numeric	8
TKN_HAFT_MESAI_MYO	Technician weekly average working time per person (hours), Short-cycle tertiary education	Numeric	8
TKN_HAFT_ARGE_MYO	Technician, weekly average time allocated for R&D per person (hours), Short-cycle tertiary education	Numeric	8
TKN_YILLIKUCR_MYO	Technician average annual gross payment (TRY), Short-cycle tertiary education	Numeric	8
TKN_ARGEUCR_MYO	Technician R&D personnel expenditure (TRY), Short-cycle tertiary education	Numeric	8
TKN_KADIN_LISE	Number of female technicians, Upper secondary education	Numeric	8
TKN_ERKEK_LISE	Number of male technicians, Upper secondary education	Numeric	8
TKN_TOP_PER_LISE	Total number of technicians, Upper secondary education	Numeric	8
TKN_KADIN_LISE_TZE	Number of female technicians (FTE), Upper secondary education	Numeric	8
TKN_ERKEK_LISE_TZE	Number of male technicians (FTE), Upper secondary education	Numeric	8
TKN_TOP_PER_LISE_TZE	Total number of technicians(FTE), Upper secondary education	Numeric	8
TKN_HAFT_MESAI_LISE	Technicians/equivalent staff weekly average working time per person (hours), Upper secondary education	Numeric	8
TKN_HAFT_ARGE_LISE	Technicians/equivalent staff, weekly average time allocated for R&D per person (hours), Upper secondary education	Numeric	8
TKN_YILLIKUCR_LISE	Technicians/equivalent staff average annual gross payment (TRY), Upper secondary education	Numeric	8
TKN_ARGEUCR_LISE	Technicians/equivalent staff R&D personnel expenditure (TRY), Upper secondary education	Numeric	8
TKN_KADIN_DGR	Number of female Technicians/equivalent staffs, other	Numeric	8
TKN_ERKEK_DGR	Number of male Technicians/equivalent staffs, other	Numeric	8
TKN_TOP_PER_DGR	Total number of Technicians/equivalent staffs, other	Numeric	8
TKN_KADIN_DGR_TZE	Number of female Technicians/equivalent staffs (FTE), other	Numeric	8
TKN_ERKEK_DGR_TZE	Number of male Technicians/equivalent staffs (FTE), other	Numeric	8
TKN_TOP_PER_DGR_TZE	Total number of Technicians/equivalent staffs(FTE), other	Numeric	8
TKN_HAFT_MESAI_DGR	Technicians/equivalent staff weekly average working time per person (hours), other	Numeric	8
TKN_HAFT_ARGE_DGR	Technicians/equivalent staff, weekly average time allocated for R&D per person (hours), other	Numeric	8
TKN_YILLIKUCR_DGR	Technician average annual gross payment (TRY), other	Numeric	8
TKN_ARGEUCR_DGR	Technician R&D personnel expenditure (TRY), other	Numeric	8
DDEST_KADIN_DR	Number of female other supporting staff, Doctorate and above	Numeric	8
DDEST_ERKEK_DR	Number of male other supporting staff, Doctorate and above	Numeric	8
DDEST_TOP_PER_DR	Total number of technicians, Doctorate and above	Numeric	8

DDEST_KADIN_DR_TZE	Number of female other supporting staff (FTE), Doctorate and above	Numeric	8
DDEST_ERKEK_DR_TZE	Number of male other supporting staff (FTE), Doctorate and above	Numeric	8
DDEST_TOP_PER_DR_TZE	Total number of other supporting staff(FTE), Doctorate and above	Numeric	8
DDEST_HAFT_MESAI_DR	Other supporting staff weekly average working time per person (hours), Doctorate and above	Numeric	8
DDEST_HAFT_ARGE_DR	Other supporting staff, weekly average time allocated for R&D per person (hours), Doctorate and above	Numeric	8
DDEST_YILLIKUCR_DR	Other supporting staff average annual gross payment (TRY), Doctorate and above	Numeric	8
DDEST_ARGEUCR_DR	Other supporting staff R&D personnel expenditure (TRY), Doctorate and above	Numeric	8
DDEST_KADIN_YLSNS	Number of female other supporting staff, Master level or equivalent	Numeric	8
DDEST_ERKEK_YLSNS	Number of male other supporting staff, Master level or equivalent	Numeric	8
DDEST_TOP_PER_YLSNS	Total number of technicians, Master level or equivalent	Numeric	8
DDEST_KADIN_YLSNS_TZE	Number of female other supporting staff (FTE), Master level or equivalent	Numeric	8
DDEST_ERKEK_YLSNS_TZE	Number of male other supporting staff (FTE), Master level or equivalent	Numeric	8
DDEST_TOP_PER_YLSNS_TZE	Total number of other supporting staff(FTE), Master level or equivalent	Numeric	8
DDEST_HAFT_MESAI_YLSNS	Other supporting staff weekly average working time per person (hours), Master level or equivalent	Numeric	8
DDEST_HAFT_ARGE_YLSNS	Other supporting staff, weekly average time allocated for R&D per person (hours), Master level or equivalent	Numeric	8
DDEST_YILLIKUCR_YLSNS	Other supporting staff average annual gross payment (TRY), Master level or equivalent	Numeric	8
DDEST_ARGEUCR_YLSNS	Other supporting staff R&D personnel expenditure (TRY), Master level or equivalent	Numeric	8
DDEST_KADIN_LSNS	Number of female other supporting staff, Bachelor level or equivalent	Numeric	8
DDEST_ERKEK_LSNS	Number of male other supporting staff, Bachelor level or equivalent	Numeric	8
DDEST_TOP_PER_LSNS	Total number of technicians, Bachelor level or equivalent	Numeric	8
DDEST_KADIN_LSNS_TZE	Number of female other supporting staff (FTE), Bachelor level or equivalent	Numeric	8
DDEST_ERKEK_LSNS_TZE	Number of male other supporting staff (FTE), Bachelor level or equivalent	Numeric	8
DDEST_TOP_PER_LSNS_TZE	Total number of other supporting staff(FTE), Bachelor level or equivalent	Numeric	8
DDEST_HAFT_MESAI_LSNS	Other supporting staff weekly average working time per person (hours), Bachelor level or equivalent	Numeric	8
DDEST_HAFT_ARGE_LSNS	Other supporting staff, weekly average time allocated for R&D per person (hours), Bachelor level or equivalent	Numeric	8
DDEST_YILLIKUCR_LSNS	Other supporting staff average annual gross payment (TRY), Bachelor level or equivalent	Numeric	8
DDEST_ARGEUCR_LSNS	Other supporting staff R&D personnel expenditure (TRY), Bachelor level or equivalent	Numeric	8
DDEST_KADIN_MYO	Number of female other supporting staff, Short-cycle tertiary education	Numeric	8
DDEST_ERKEK_MYO	Number of male other supporting staff, Short-cycle tertiary education	Numeric	8

DDEST_TOP_PER_MYO	Total number of technicians, Short-cycle tertiary education	Numeric	8
DDEST_KADIN_MYO_TZE	Number of female other supporting staff (FTE), Short-cycle tertiary education	Numeric	8
DDEST_ERKEK_MYO_TZE	Number of male other supporting staff (FTE), Short-cycle tertiary education	Numeric	8
DDEST_TOP_PER_MYO_TZE	Total number of other supporting staff(FTE), Short-cycle tertiary education	Numeric	8
DDEST_HAFT_MESAI_MYO	Other supporting staff weekly average working time per person (hours), Short-cycle tertiary education	Numeric	8
DDEST_HAFT_ARGE_MYO	Other supporting staff, weekly average time allocated for R&D per person (hours), Short-cycle tertiary education	Numeric	8
DDEST_YILLIKUCR_MYO	Other supporting staff average annual gross payment (TRY), Short-cycle tertiary education	Numeric	8
DDEST_ARGEUCR_MYO	Other supporting staff R&D personnel expenditure (TRY), Short-cycle tertiary education	Numeric	8
DDEST_KADIN_LISE	Number of female other supporting staff, Upper secondary education	Numeric	8
DDEST_ERKEK_LISE	Number of male other supporting staff, Upper secondary education	Numeric	8
DDEST_TOP_PER_LISE	Total number of technicians, Upper secondary education	Numeric	8
DDEST_KADIN_LISE_TZE	Number of female other supporting staff (FTE), Upper secondary education	Numeric	8
DDEST_ERKEK_LISE_TZE	Number of male other supporting staff (FTE), Upper secondary education	Numeric	8
DDEST_TOP_PER_LISE_TZE	Total number of other supporting staff(FTE), Upper secondary education	Numeric	8
DDEST_HAFT_MESAI_LISE	Other supporting staff weekly average working time per person (hours), Upper secondary education	Numeric	8
DDEST_HAFT_ARGE_LISE	Other supporting staff, weekly average time allocated for R&D per person (hours), Upper secondary education	Numeric	8
DDEST_YILLIKUCR_LISE	Other supporting staff average annual gross payment (TRY), Upper secondary education	Numeric	8
DDEST_ARGEUCR_LISE	Other supporting staff R&D personnel expenditure (TRY), Upper secondary education	Numeric	8
DDEST_KADIN_DGR	Number of female other supporting staff, Other	Numeric	8
DDEST_ERKEK_DGR	Number of male other supporting staff, Other	Numeric	8
DDEST_TOP_PER_DGR	Total number of technicians, Other	Numeric	8
DDEST_KADIN_DGR_TZE	Number of female other supporting staff (FTE), Other	Numeric	8
DDEST_ERKEK_DGR_TZE	Number of male other supporting staff (FTE), Other	Numeric	8
DDEST_TOP_PER_DGR_TZE	Total number of other supporting staff(FTE), Other	Numeric	8
DDEST_HAFT_MESAI_DGR	Other supporting staff weekly average working time per person (hours), Other	Numeric	8
DDEST_HAFT_ARGE_DGR	Other supporting staff, weekly average time allocated for R&D per person (hours), Other	Numeric	8
DDEST_YILLIKUCR_DGR	Other supporting staff average annual gross payment (TRY), Other	Numeric	8
DDEST_ARGEUCR_DGR	Other supporting staff R&D personnel expenditure (TRY), Other	Numeric	8
ARASTIRMACI_KADIN_TOPLAM	Total female researcher	Numeric	8
ARASTIRMACI_ERKEK_TOPLAM	Total male researcher	Numeric	8
ARASTIRMACI_TOPLAM_PERS	Total researcher	Numeric	8

TOPLAM_KADIN_ARGE	Total female R&D staff	Numeric	8
TOPLAM_ERKEK_ARGE	Total male R&D staff	Numeric	8
TOPLAM_PERSONEL_ARGE	Total R&D staff	Numeric	8
ARAS_KADIN_25ALTI	Female researcher under 25	Numeric	8
ARAS_ERKEK_25ALTI	Male researcher under 25	Numeric	8
ARAS_TOPLAM_25ALTI	Total researchers under 25 years old	Numeric	8
ARGE_KADIN_25ALTI	Female R&D personnel under the age of 25	Numeric	8
ARGE_ERKEK_25ALTI	Male R&D staff under the age of 25	Numeric	8
ARGE_TOPLAM_25ALTI	Total R&D personnel under the age of 25	Numeric	8
ARAS_KADIN_25_34	Female researcher in the 25-34 age group	Numeric	8
ARAS_ERKEK_25_34	Male researcher in the 25-34 age group	Numeric	8
ARAS_TOPLAM_25_34	Total researchers in the 25-34 age group	Numeric	8
ARGE_KADIN_25_34	Female R&D staff in the 25-34 age group	Numeric	8
ARGE_ERKEK_25_34	Male R&D personnel in the 25-34 age group	Numeric	8
ARGE_TOPLAM_25_34	Total R&D personnel in the age group 25-34	Numeric	8
ARAS_KADIN_35_44	Female researcher in the 35-44 age group	Numeric	8
ARAS_ERKEK_35_44	Male researcher in the 35-44 age group	Numeric	8
ARAS_TOPLAM_35_44	Total researchers in the 35-44 age group	Numeric	8
ARGE_KADIN_35_44	Female R&D staff in the 35-44 age group	Numeric	8
ARGE_ERKEK_35_44	Male R&D staff in the 35-44 age group	Numeric	8
ARGE_TOPLAM_35_44	Total R&D personnel in the 35-44 age group	Numeric	8
ARAS_KADIN_45_54	Female researcher in the age group 45-54	Numeric	8
ARAS_ERKEK_45_54	Male researcher in the 45-54 age group	Numeric	8
ARAS_TOPLAM_45_54	Total researchers in the 45-54 age group	Numeric	8
ARGE_KADIN_45_54	Female R&D staff in the 45-54 age group	Numeric	8
ARGE_ERKEK_45_54	Male R&D personnel in the 45-54 age group	Numeric	8
ARGE_TOPLAM_45_54	Total R&D personnel in the age group 45-54	Numeric	8
ARAS_KADIN_55_64	Female researcher in the 55-64 age group	Numeric	8
ARAS_ERKEK_55_64	Male researcher in the 55-64 age group	Numeric	8
ARAS_TOPLAM_55_64	Total researchers in the 55-64 age group	Numeric	8
ARGE_KADIN_55_64	Female R&D staff in the 55-64 age group	Numeric	8
ARGE_ERKEK_55_64	Male R&D staff in the 55-64 age group	Numeric	8
ARGE_TOPLAM_55_64	Total R&D personnel in the 55-64 age group	Numeric	8
ARAS_KADIN_65USTU	A female researcher aged 65 and over	Numeric	8
ARAS_ERKEK_65USTU	Male researcher aged 65 and over	Numeric	8
ARAS_TOPLAM_65USTU	Total researchers in the age group 65 and over	Numeric	8
ARGE_KADIN_65USTU	Female R&D personnel aged 65 and over	Numeric	8
ARGE_ERKEK_65USTU	Male R&D personnel aged 65 and over	Numeric	8
ARGE_TOPLAM_65USTU	Total R&D personnel aged 65 and over	Numeric	8

VARIABLE NAME	**VARIABLE LABEL**	**VARIABLE TYPE**	**LENGHT**
GIRISIM_REF	It is the number given by TURKSTAT to the statistical unit	Numeric	8
REFERANS_YIL	Reference year	Numeric	8
ILKAYITNO	Distribution of R&D expenditures and R&D personnel by provinces	Numeric	8
ARAS_KADIN_PER	Number of female researcher	Numeric	8
ARAS_ERKEK_PER	Number of male researcher	Numeric	8
ARGE_KADIN_PER	Number of female R&D personnel	Numeric	8
ARGE_ERKEK_PER	Number of male R&D personnel	Numeric	8
DAHILI_ARGE_HARCAMA_IL	Intramural R&D expenditure by provinces	Numeric	8

In order to see the meaning of codes for the variables specified above, please click the links below to enter the Global Repository Codes or Standard Code List (developed for TurkStat).

Global Repository Codes (developed for TurkStat):

https://biruni.tuik.gov.tr/DIESS/SiniflamaSurumListeAction.do?turId=52&turAdi=15.%20Global%20Repository%20Codes&guncel=Y

Standard Code Lists (developed for TurkStat):

https://biruni.tuik.gov.tr/DIESS/SiniflamaSurumListeAction.do?turId=55&turAdi=16.%20Standard%20Code%20Lists%20(PRODUCTION)%20NEW%20VERSION&guncel=Y

3. Meta Data

3.1 Purpose

This collection provides users with data concerning R&D expenditure and R&D personnel broken down, all data are broken down by the mentioned sector of performance. The R&D expenditure can be broken down by source of funds, by fields of science, by type of costs, by type of activity, by type of R&D, by fields of science. R&D personnel data is also available in full-time equivalent (FTE) and head count (HC), The data can be broken down by occupation, by qualification, by gender, by fields of science as well.

3.2 History

R&D statistics have started to be produced regularly in most of the OECD member countries since the 1960s. The first Research and Development Activities Survey was carried out with the joint research of TurkStat - The Scientific and Technological Research Council of Turkey. This research, which provides significant contributions to the evaluation and development of policies in this field, and compensate for an important deficiency in Turkey for the field of Science, Technology and R & D, was conducted between May 1991 and May 1992 in accordance with the "Frascati Manual, Guidelines for Collecting and Reporting Data on Research and Experimental Development" prepared by the OECD.

After this study, related statistics are produced annually by TurkStat and brought into use for public. From 2017 onwards, financial and non-financial corporations statement have started to be used for the business enterprise sector in accordance with the System of National Accounts.

3.3 Coverage

Financial and non-financial corporations R&D research includes all enterprises that operate in the industry and service sectors known or predicted to have R&D. Accordingly, the scope of the research consists of:

- Enterprises known to carry out R&D activities (based on previous research results),
- Enterprises operating in Technology Development Zones,
- Enterprises supported by the public institutions for R&D activities,
- Enterprises benefiting from indirect R&D supports under Law No. 5746,
- Top 500 enterprises ranked separately in industry and service sector by turnover and value added.

3.4 Method

The data are compiled directly from enterprise through a web survey. Within the context of data collection on the web, each user has been assigned a user name and password by TurkStat. The information entered by the respondents into the web environment is reviewed first by the Regional Directorates of TurkStat. After the control and consistency analysis carried out at the micro level, more detailed and macro analyzes are made by the related group and a return to the Regional Directorates is made for the suspicious records and the final decision is given.

3.5 Definitions and Concepts

Enterprise: The enterprise is an organisational form that produces goods and services using decision autonomy at first degree. An enterprise carries out one or more activities at one or more locations. The relation between enterprise and legal unit is directly stated by this definition: ”An enterprise corresponds to a legal unit or combination of legal units."

Research and Experimental Development(R&D): Research and experimental development comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications.

Gross Domestic Expenditure on Research and Development R&D (GERD): It is total intramural expenditure on R&D performed in national territory in a given period.

Basic research: Basic research is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts, without any particular application or use in view.

Applied research: Applied research is also original investigation undertaken in order to acquire new knowledge. It is, however, directed primarily towards a specific practical aim or objective.

Experimental development: Experimental development is systematic work, drawing on existing knowledge gained from research and/or practical experience, which is directed to producing new materials, products or devices, to installing new processes, systems and services or to improving substantially those already produced or installed.

Researcher: Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems and also in the management of the projects concerned.

Technicians and equivalent staff: Technicians and equivalent staff are persons whose main tasks require technical knowledge and experience in one or more fields of engineering, physical and life sciences or social sciences and humanities. They participate in R&D by performing scientific and technical tasks involving the application of concepts and operational methods, normally under the supervision of researchers. Equivalent staff performs the corresponding R&D tasks under the supervision of researchers in the social sciences and humanities.

Other supporting staff: Other supporting staff includes skilled and unskilled craftsmen, secretarial and clerical staff participating in R&D projects or directly associated with such projects.

Full Time Equivalent (FTE): One FTE may be thought of as one person-year. Thus, a person who normally spends 30% of his/her time on R&D and the rest on other activities (such as teaching, university administration and student counselling) should be considered as 0.3 FTE. Similarly, if a full-time R&D worker is employed at an R&D unit for only six months, this results in an FTE of 0.5. Since the normal working day (period) may differ from sector to sector and even from institution to institution, it is not meaningful to express FTE in person-hours.

Intramural expenditures: Intramural expenditures are all expenditures for R&D performed within a statistical unit or sector of the economy during a specific period, whatever the source of funds**.**

Current R&D costs: Current costs are composed of labour costs and other current costs.

Intramural R&D personnel costs: These comprise annual wages and salaries and all associated costs or fringe benefits, such as bonus payments, holiday pay, contributions to pension funds and other social security payments, payroll taxes, etc.

Other current cost of R&D: These comprise non-capital purchases of materials, supplies and equipment to support R&D performed by the statistical unit in a given year.

R&D capital costs: These are the annual gross expenditures on fixed assets used in the R&D programmes of statistical units. They should be reported in full for the period when they took place and should not be registered as an element of depreciation. All depreciation provisions for building, plant and equipment, whether real or imputed, should be excluded from the

measurement of intramural R&D expenditures. This approach is proposed for two reasons: If depreciation (an allowance to finance the replacement of existing assets) is included in current costs, the addition of capital expenditures would result in double counting. In the government sector, no provision is normally made for depreciation of fixed assets. Consequently, even within a country, comparisons between sectors cannot be made unless depreciation provisions are excluded, and aggregates for a national series cannot be compiled unless the sector totals are put on a comparable basis.

Machinery and equipment for R&D: This covers major instruments and equipment acquired for use in the performance of R&D.

Land and buildings: This comprises land acquired for R&D (e.g. testing grounds, sites for laboratories and pilot plants) and buildings constructed or purchased, including major improvements, modifications and repairs.

Gross Domestic Expenditure on Research and Development R&D (GERD): It is total intramural expenditure on R&D performed in national territory in a given period.

Capitalised computer software for R&D: It consists of computer software that is used in the performance of R&D for more than one year. It includes long-term licences or the acquisition of separately identifiable computer software, in-cluding programme descriptions and supporting materials for both systems and applications software.

Other intellectual property products for R&D: Patent purchases for longer than one year and used for R&D refer to long term licenses and other intellectual property rights.

Financial corporations: It consist of all resident corporations that are principally engaged in providing financial services, including insurance and pension funding services, to other institutional units. Before 2016 survey, this category was being evaluated in the business enterprise sector.

Non-financial corporations: They are corporations whose principal activity is the production of market goods or non-financial services. Before 2016 survey, this category was being evaluated in the business enterprise sector.

General government: Government units are unique kinds of legal entities established by political processes that have legislative, judicial or executive authority over other institutional units within a given area. Viewed as institutional units, the principal functions of government are to assume responsibility for the provision of goods and services to the community or to individual households and to finance their provision out of taxation or other incomes, to redistribute income and wealth by means of transfers, and to engage in non-market production. Before 2016 survey, this category was being evaluated in the government enterprise sector.

Main activity: If the activity of the enterprise is more than one, the main activity is the activity where the gross sales revenue is created the most. If the gross sales revenue of more than

one activity of the enterprise is equal, then the main activity of the employee is the main activity.

3.6 Classification

The following classifications are used in the research:

- International Standard Classification of Occupations (ISCO-08),
- Fields of Research and Development-2015 (FORD-2015)
- International Standard Classification of Education (ISCED-2011),
- Statistical Classification of Economic Activities in the European Community (NACE Rev.2)
- Classification of Statistical Regions (SR)

3.7 Questionnaire

The questionnaire of the survey is prepared according to the definitions and principles in the Frascati Manual, taking into account the needs of national and international organizations.

3.8 Data Information

Frame: 21 846

Number of Response: 21 483

Number of Non-response: 363

Number of enterprises carrying out Intramural R&D: 8 298

4. Data Set

The data set was created in CSV format, a file type that can be used in all statistical package programs. In this format, a comma (,) is used as the "Delimiter" in each column. When the data set is transferred to the package programs, the "Open" or "Import Data" submenus can be used under the "File" menu.

ARGE_MİKROVERİ_2020.CSV

ARGE_IL_MİKROVERİ_2020.CSV

5. Links

Press Release

https://data.tuik.gov.tr/Bulten/Index?p=Research-and-Development-Activities-Survey-2020-37439

Statistical Tables

https://data.tuik.gov.tr/Kategori/GetKategori?p=bilgi-teknolojileri-ve-bilgi-toplumu-102&dil=2

Info Request

https://www.tuik.gov.tr/Kurumsal/Bilgiye_Nasil_Erisilir